

JBCC CONTRACT PRICE ADJUSTMENT PROVISIONS (CPAP)

CPAP Indices Application Manual

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Background and Objective

The Joint Building Contracts Committee (JBCC) accepted responsibility in 1995 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 to cover Stats SA's fee and JBCC's administration costs

The formula adjustment provision provides 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 for 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 A word or phrase in **bold type** in this manual shall have the meaning assigned to it hereunder. Where such a word or phrase is not in **bold type** it shall be interpreted in the context of its usage

ADJUSTMENT AMOUNT: The amount calculated in terms of the applicable adjustment formula using the tax exclusive method

AGREEMENT: The current edition of the Principal Building Agreement

BASE MONTH: The calendar month during which tenders closed

CONTRACTOR: The party contracting with the employer for the execution of the works

CONTRACT VALUE: A monetary value that initially is equal to the contract sum, but which is subject to adjustment in terms of the **agreement**

CPAP: These Contract Price Adjustment Provisions used for the adjustment of fluctuations in the cost of labour, plant, materials and goods that are required to construct the works

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

PAYMENT CERTIFICATE: A document issued monthly, or at shorter regular intervals, by the **principal agent** certifying the amount due and payable by the employer to the **contractor** or *vice versa* in terms of the JBCC Payment Certificate format and the **agreement**

CONTRACTUAL DATE FOR COMPLETION: The actual date for practical completion of the works or any revision of the initial contractual date for practical completion in terms of the **agreement**, whichever occurs first, provided that if no revision is granted, it shall mean the initial contractual completion date

PRINCIPAL AGENT: The party appointed by the employer with full authority and obligation to act in terms of the **agreement**

STATS SA: Statistics South Africa as the provider of the **indices** used for **CPAP**

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

WORK COMPLETED IN TIME: The work value executed up to the **contractual date for completion**

WORK COMPLETED LATE: The work value executed after the **contractual date for completion**

WORK GROUP: A “grouping” of work descriptions that are more commonly undertaken by a particular recognised “tradesman”, or that are generally recognised in the construction industry as sharing common characteristics, and for which an **index** is available, or is determined by a means that is acceptable to both the employer and **contractor**

WORK VALUE: 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 used in the interpretation of such clauses

2.0 HOW THE CPAP PROVISIONS WORK

- 2.1 The **CPAP** provides for reimbursement of 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 hereunder
- 2.2 The **CPAP** provides for the adjustment of contracts in respect of:
- 2.2.1 General 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 number of **work groups** is limited to simplify the work required at the time of payment certification
- 2.6 Reference is made to a **work group** rather than "trade" as is customary in the building industry as certain materials lend themselves to grouping for costing purposes. 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 best 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, using one **index**, since the subdivision of value into **work groups** for payment certification causes practical 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 between the contractor and the affected party. 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 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 accordingly
- 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 application of the prescribed 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 Imported equipment in specialist work listed in the tender enquiry documents stating the specific method of adjustment of each item and the procedure for obtaining the information necessary for the application thereof (i.e. fluctuations in the exchange rate)
 - 3.4.5 Imported materials in specialist work listed in the tender enquiry documents stating the specific method of adjustment of each item and the procedure for obtaining the information necessary for the application thereof (i.e. fluctuations in the exchange rate)
 - 3.4.6 Items not listed in the tender enquiry documents 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
 - 3.4.7 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
 - 3.4.8 Work executed by local authorities or other public bodies, which shall be adjusted based on net cost to the **contractor**, substantiated by satisfactory documentary evidence where necessary
 - 3.4.9 Variations priced at current prices or based on current costs. In **work group** 190 a proportion of the preliminaries prorated to such amount of work shall also be excluded from adjustment
 - 3.4.10 **Contractor's** profit and attendance on provisional sums and the like where the profit and attendance 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

- 4.2 The total **work value** 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**, the **principal agent** shall use the agreed amounts subject to the provisions of the value of work included or excluded

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:

$$A = 0.85 \times V \left(\frac{X_e}{X_o} - 1 \right)$$

- 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** for the calendar month during which the **payment certificate** is dated
 - 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 Inclusive of the work carried out by nominated or selected subcontractors, which shall be irrespective of whether or not the **agreement** provides for a cash discount to the **contractor** in respect of any amounts due. **Adjustment amount** payments 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**
- 5.3 The non-adjustable element of the formula represents the portion of the works for which the **contractor** carries the risk of inflation

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 by application of the formula
- 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 **contractual date for completion** shall, despite the provisions in terms of 3.0, 5.0 and 13.5 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 **contractual date for completion** less the work value included in previous **payment certificates**, shall be allocated based on a reasonable estimate to categories of **work completed in time** and **work completed late**
- 8.1.3 The **work value** and **adjustment amounts** 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 in time** shall be calculated as a single sum for each **payment certificate** by the application of the formula:

$$A = V \times \frac{Af}{Vf}$$

- 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 **contractual date for completion**
 - Af = the theoretical **adjustment amount** relating to Vf calculated in terms of 5.0 and 13.5 using **index** values Xe applicable to the **contractual date for completion**

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

$$A = V \times \frac{Af}{Vf} \times 0.55$$

Where V results in a negative amount, the factor of 0.55 shall be substituted by 1.45

9.0 PROVISIONAL ADJUSTMENTS

- 9.1 Provisional adjustments shall be calculated and corrected as follows:
- 9.1.1 Provided all 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, but using the latest published **index** value applicable to Xe
- 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 the application of the formula:

$$A = V \times \frac{An}{Vn}$$

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

- 9.2 This alternative provisional adjustment procedure 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

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**

10.0 ADJUSTMENT BACK TO THE BASE MONTH

10.1 To de-escalate a price to the base month, each component price shall be adjusted separately by the application of the formula:

$$R_o = \frac{R_e}{1 + 0.85 \left(\frac{X_e}{X_o} - 1 \right)}$$

Where: R_o = the **base month** price
 R_e = the price to be de-escalated
and where X_e and X_o have the same meaning as those ascribed in terms of 5.1

11.0 CORRECTIONS

11.1 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

12.0 UNDUE DELAY

12.1 Where, prior to the issue of the final **payment certificate**, the calculation of the adjustments is not possible due to a delay in or cessation of the publication of the **indices**, the **principal agent** shall calculate the **adjustment amount** for inclusion in **payment certificates** on a fair and reasonable basis. Should the publication of the **indices** be resumed before the issue of the final certificate, the correct indices shall be substituted for those used and the **adjustment amounts** recalculated

13.0 GENERAL

13.1 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

13.2 Bills of Quantities Contracts

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

13.3 Lump Sum Contracts

13.3.1 To provide for price adjustment, the appropriate lump sum **indices** shall 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

13.3.2 Where more than one **work group** may be 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 by subdividing work into **work groups**, equipment, other amounts and provisions that are suitable for adjustment purposes

13.4 Allocation of Work to Work Groups

13.4.1 For building work the trade groupings set out in the Standard System of Measuring Building Work are generally to be followed. Where these rules are insufficient in determining allocation:

- The **work groups** are intended to be more material-orientated than trade-orientated, except where applied to 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

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

13.5 Exceptional Work Groups

13.5.1 Formula adjustment in respect of exceptional cases 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. Examples include:

- Engineering projects containing structural 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**

13.5.3 Before resorting to the calculation of an additional **work group index**, a solution to an apparently unusual contract should first be sought by using the defined **work groups** or combinations thereof

13.5.4 Where an additional **work group** must be created for a specific project, the tender enquiry documents shall make reference to this clause and include a schedule of the weights and component sub-indices

13.6 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**

13.7 Work Excluded from Adjustment

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

13.8 Subcontractors/Suppliers

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**. The parties may agree to act on this basis or on a **work group index** specifically compiled by the **principal agent**.