

**2-DAY NATIONAL WORKSHOP ON RELEVANCE OF BESMM4 IN
TOTAL COST MANAGEMENT OF CONSTRUCTION/ENGINEERING WORKS**

ORGANIZED BY:

THE NIGERIAN INSTITUTE OF QUANTITY SURVEYORS

HELD AT:

**BARCELONA HOTELS,
NO. 23 BLANTYRE STREET, WUSE II, ABUJA**

ON

WEDNESDAY, 6TH TO THURSDAY, 7TH APRIL 2016

TIME

9.00AM TO 5.00PM DAILY

PAPER

PRICING CONTRACT DOCUMENTATION BASED ON BESMM4

Presented by



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PRICING CONTRACT DOCUMENTATION BASED ON BESMM4

All Protocols

- BESMM4 provides fundamental guidance on the detailed measurement and description of Building, Engineering and Industrial works for the purpose of obtaining a tender price, valuation for interim payments as well as a veritable basis for the valuation of variations for Building, Engineering and industrial projects

SECTION - 1 MEASUREMENT OF BUILDING WORKS

COMPOSITION OF A BILL OF QUANTITIES

Bill of Quantities (BoQ) usually comprises the following sections.

- Form of Tender
- Summary (or Main Summary)
- Preliminaries - 2 sections
 - * Information and requirements, and
 - * Pricing schedule
- Measured work (Incorporating Contractor designed works)
 - * Facilitating works
 - * Substructure
 - * Superstructure
 - * Internal finishes
 - * Fittings, furnishings and equipment
 - * Services
 - * External works
- Risks
- Provisional Sums
 - * Defined
 - * Undefined
- Works to be carried out by statutory under takers:
- Overheads and profit
- Credits (for materials arising from the works)
- Fixed price adjustment
- Directors adjustment
- Dayworks (provisional)
- Tender price (to form of Tender)

PRINCING METHOD/PRINCIPLES

Components of a Unit rate

- Labour and all costs in connection therewith
- Materials and goods together with the costs in connection therewith
- Assembling, installing, erecting, fixing or fittings materials and goods in position
- Plant and all costs in connection therewith
- Waste of goods or materials
- All rough and fair cutting unless specially stated otherwise
- Establishment charges, and cost of compliance with all regulation in connection with the work measured including health and safety, disposal of waste and the like.

1.1. PRELIMINARIES

A. Information and Requirements - Not priced

B. Pricing schedule

a. Employers requirements

* Site Accommodation - item - * Installation - Fixed charge

* Dismantling and remove from site -
Fixed charge

- Maintaining, cleaning, charges - Time
related (weeks)

b. Main contractor's cost items

Management and Staff

* Project - specific management and staff - week - Time related charge

Measured Works (Including Contractors designed works)

1.2. Demolitions - items - see coverage rules C1 - C8 for pricing instructions

1.3. Alterations, repairs and conservation - item - see coverage rules C1 - C7 for pricing instructions

- 1.6. Ground remediation and soil stabilization - items/m³ - see coverage rules C1 - C8 for pricing instructions
- 1.7. Piling - see coverage rules C1 - C7 for pricing instruction
- 1.8. Underpinning - see coverage rules C1 - C12 for pricing instructions
- 1.9. Diaphragm walls and embedded retaining walls - see coverage rules C1-C7 for pricing instructions
- 1.10. Crib walls, Gabion and Reinforced earth - see coverage rules C1 - C6 for pricing instructions.
- 1.11. Insitu Concrete
 - * Mass Concrete - m³ - unreinforced bulk concrete
 - * Horizontal work - m³ - reinforced (coverage rule C7)
 - * Sloping works - m³ -unreinforced/reinforced (coverage rule C8-C9)
 - * Vertical work - m³ - reinforced (coverage rule C10)
 - * Formwork - m²/m - (First, second & Third divisions for pricing instructions)
- 1.12. Precast/composite concrete - m² - see coverage rules a-k for pricing instructions
- 1.13. Precast concrete - nr - see coverage rules (1a - i) for pricing instructions
- 1.14. Mansory - m² - see coverage rules (C1 - C14) for pricing instructions
- 1.17. Sheet roof covering - m² - see coverage rules C1a - I for pricing instruction
- 1.21. Cladding and covering - m²/m - see coverage rules C1 - C7 for pricing instructions
- 1.29. Decoration - m²/m - (First, second and Third Divisions for pricing instructions)
- 1.28. Floor, wall, ceiling and Roof finishings - m/m² (First, second and Third Divisions for pricing instructions)
- 1.30. Suspended ceilings - m² - (First, second and Third Division for pricing instructions)

- 1.31. Insulation, fire stopping and fire protection - (First, Second & Third Divisions for pricing instructions)
- 1.32. Furniture, fittings and equipment - Nr - see coverage rules C1 - C5 for pricing instruction
- 1.33. Drainage above ground - m/Nr - see coverage rules C1 - C5 for pricing instructions
- 1.34. Drainage below ground - m/m²/m³ - see coverage rules C1 - C9 for pricing instruction
- 1.35. Site works - m/nr - see coverage rules C1 - C5 for pricing instructions
- 1.36. Fencing - m/nr - see coverage rules C1 - C12 for pricing instructions.
- 1.37. Soft Landscaping - m²/m/nr - see coverage rules C1 - C14 for pricing instruction
- 1.38. Mechanical Services - nr/m/m² - see coverage rules C1 - C2 for pricing instruction
- 1.39. Electrical Services - nr/m/ see coverage rules C1 - C16 for pricing instructions
- 1.40. Transportation - nr - see coverage rules C1 - C8 for pricing instructions

RISKS - * Risk transfer to the contractor
 * Risk sharing to both employer and contractor
 * Risk retention by the employer.

Risk Transfer to the Contractor

- To be listed in the BoQ under the heading 'schedule of construction risk' eg. Demolition & Alteration works, Accelerated measures etc)
- Risk allowances inserted by the contractor shall be **exclusive of overheads and profit**.
- The contractor will be deemed to have made **due allowance in his allowances for programming, planning and pricing preliminaries**
- The Employer is required to pay the **risk premium** to the contractor, irrespective of whether the risk transferred does or does not materialize.

Risk Sharing by both Employer and Contractor

- Using **Provisional Quantities** with the **pricing risk** being taken by the contractor and the **quantification risk** being taken by the employer (eg. Remeasurement of provisional quantities - Variance between **provisional quantities and the firm quantities measured is less than 20%**, the rate tendered by the contractor shall not be subject to review. Where the variance is **significant (i.e 20% or more)**, the rate can be reviewed to ensure that the rate is **fair and reasonable to both employer and contractor**.

Risk Retention by the employer

- Where risks are to be retained by the employer, the applicable risk allowances included in the **cost plan** will be retained and managed by the employer or, if empowered by the employer, the project team (eg Design & Price risks).

Provisional Sums

Undefined Work - The Contractor will be deemed **not to have made any allowance in programming, planning and pricing preliminaries**

Defined Work - The Contractor will be deemed **to have made due allowance in his or her programming, planning and pricing preliminaries**

Provisional Sums shall be **exclusive of overheads and profit**.

Works to be carried out by Statutory Undertakers

- Works that are required to be carried out by a statutory undertaker are to be given as **'Provisional Sum'**
- The Contractor is to be deemed **to have made due allowance in his programming, planning and pricing preliminaries**
- Provisional Sums for work to be carried out by statutory undertakers are to be **exclusive of overheads and profit**.

Overheads and Profit

Provision shall be made in the BoQ for the Contractor to apply their required **Percentage addition for overheads and profit** on the following:

1. Preliminaries
2. Measured works
3. Risk allowances

4. Expenditure of Provisional Sums (i.e defined and undefined provisional sums)
5. Works to be undertaken by Statutory undertakers.

Credits – (Refund offered by the Contractor to the employer in return for the benefit of taking ownership of materials, goods, items, mechanical and electrical plant and equipment, etc arising from demolition works)

- Credit can be based on a prepared list of items, which is incorporated in the BoQ and the Contractor invited to insert the **amount of credit he will give for each item**.
- Alternatively, the Contractor can be invited to list items for **he is willing to offer a credit and the amount of credit he will give for each item**.

Fixed Price Adjustment

Where there is no provision for recovering of **price fluctuations**, separate provision is to be incorporated in the BoQ for the Contractor to tender his **fixed price adjustment for pricing risk**. Such provision is to be referred to as the **main contractors fixed price adjustment**.

Directors Adjustment

Separate provision is to be incorporated in the BoQ for the contractor to insert a director's adjustment. The Director's adjustment will include adjustments for commercial matters such as financing charges, cash flow, opportunities and competition. This is a **sum added to or omitted from the estimated price to arrive at a tender price**.

Dayworks (Provisional)

Daywork is a method of valuing work on the basis of time spent by the contractor's employees, the materials used and the plant employed.

It required, a schedule of dayworks is to be incorporated in BoQ.

- Labour - % addition for overheads & profit
- Material - % addition for overheads & profit
- Plant - % addition for overheads & profit

Procedure where exact type of product or component is not specified

- An estimated price for the product or component shall be given in the description as a Prime cost price (PC price). For example, " **Allow the PC price of NX each delivered to site.**
- PC prices shall **exclude any allowances for the main Contractor's overhead and profit.**

VAT

Value Added Tax (VAT) shall be **excluded from BoQ**. Notwithstanding this, if required by the employer, provision for the contractor to provide VAT assessment as part of his tender return can be **incorporated in the form to Tender**.

Contingency Sum - Not allowed in the BoQ.

SECTION 2 - CIVIL/INDUSTRIAL ENGINEERING WORKS AND THE LIKE

Composition of a Bill of Quantities

Bill of Quantities (BoQ) usually comprises the following sections

- Form of Tender
- Summary (or main summary)
- General items
- Measured works
 - * Ground investigation
 - * Geotechnical and other specialist processes
 - * Demolition and site clearance
 - * Earthwork
 - * Insitu concrete
 - * Concrete Ancillaries
 - * Precast concrete
 - * Pipeworks
 - * Structural metalwork
 - * Miscellaneous work
 - * Sewer and water main Renovation and ancillary works
 - * Simple building works incidental to Civil Engineering works
- Risks
- Provisional Sums
- Works to be carried out by statutory undertaker
- Overheads and profit
- Credits
- Fixed price adjustment
- Directors adjustment
- Dayworks (provisional)
- Total price (to form Tender)

PRINCING METHOD/PRINCIPLES**General items (method related charges)**

- Contractual requirements - item
- Specified requirements - item/sum
- Method related charges - item
- Provisional sums - sum

Measured works**2F. In situ Concrete**

- Provision of concrete - m3 (First, second & Third Divisions for pricings instructions)
- Placing of concrete - m3 (First, second & Third Divisions for pricings instructions)

2J. Pipeworks

- Includes provision, laying and Jointing pipes, excavating and Backfilling pipe trenches.

2N. Structural Metalwork

- Fabrication - †
- Erection - †
- Offsite site surface treatment - m2

THANK YOU

