



PART 2: PRICING DATA

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C2.1 Pricing instructions: Option B

1. The conditions of contract

1.1. How the contract prices work and assesses it for progress payments

Clause 11 in NEC3 Engineering and Construction Contract, June 2005 and 2013 (ECC) Option B states:

**Identified
and defined
terms**

11

11.2

(21) The Bill of Quantities is the *bill of quantities* as changed in accordance with this contract to accommodate implemented compensation events and for accepted quotations for acceleration.

(22) Defined Cost is the cost of the components in the Shorter Schedule of Cost Components whether work is subcontracted or not excluding the cost of preparing quotations for compensation events.

(28) The Price for Work Done to Date is the total of

- the quantity of the work which the *Contractor* has completed for each item in the Bill of Quantities multiplied by the rate and
- a proportion of each lump sum which is the proportion of the work covered by the item which the *Contractor* has completed.

Completed work is work without Defects which would either delay or be covered by immediately following work.

(31) The Prices are the lump sums and the amounts obtained by multiplying the rates by the quantities for the items in the Bill of Quantities.

This confirms that Option B is a re-measurement contract, and the bill comprises only items measured using quantities and rates or stated as lump sums. Value related items are not used. Time related items are items measured using rates where the rate is a unit of time.

1.2. Function of the Bill of Quantities

Clause 55.1 in Option B states, "Information in the Bill of Quantities is not Works Information or Site Information". This confirms that instructions to do work or how it is to be done are not included in the Bill, but in the Works Information. This is further confirmed by Clause 20.1 which states, "The *Contractor* Provides the Works in accordance with the Works Information". Hence the *Contractor* does **not** Provide the Works in accordance with the Bill of Quantities. The Bill of Quantities is only a pricing document.

1.3. Guidance before pricing and measuring

Employers preparing tenders or contract documents, and tendering contractors are advised to consult the sections dealing with the bill of quantities in the NEC3 Engineering and Construction Contract (June 2005) Guidance Notes before preparing the *bill of quantities* or before entering rates and lump sums into the *bill*.

Historically bill of quantities based contracts in South Africa have been influenced by the different approaches of the civil engineering and building sectors of the industry through their respective discipline based standard forms of contract and methods of measurement. This is particularly apparent in the approach to the Preliminary and General bill. On the other hand, because ECC caters for a number of disciplines in the same contract, including electrical works, a different approach not currently found in local methods of measurement to the Preliminary & General bill items may have been used.

The NEC approach to the P & G bill assumes use will be made of method related charges for Equipment applied to Providing the Works based on durations shown in the Accepted Programme, fixed charges for the use of Equipment that is required throughout the construction phase, time related charges for people working in a supervisory capacity for the period required, and lump sum charges for other facilities or services not directly related to performing work items typically included in other parts of the bill.



2. Measurement and payment

2.1. Symbols

The units of measurement described in the Bill of Quantities are metric units abbreviated as follows:

Abbreviation	Unit
%	percent
h	hour
ha	hectare
kg	kilogram
kl	kilolitre
km	kilometre
km-pass	kilometre-pass
kPa	kilopascal
kW	kilowatt
l	litre
m	metre
mm	millimetre
m ²	square metre
m ² -pass	square metre pass
m ³	cubic metre
m ³ -km	cubic metre-kilometre
MN	meganewton
MN.m	meganewton-metre



MPa	megapascal
No.	number
Prov sum ¹	provisional sum
PC-sum	prime cost sum
R/only	Rate only
sum	Lump sum
t	ton (1000kg)
W/day	Work day

2.2. General assumptions

- 2.2.1. Unless otherwise stated, items are measured net in accordance with the drawings, and no allowance has been made in the quantities for waste.
- 2.2.2. The Prices and rates stated for each item in the Bill of Quantities shall be treated as being fully inclusive of all work, risks, liabilities, obligations, overheads, profit and everything necessary as incurred or required by the *Contractor* in carrying out or providing that item.
- 2.2.3. Clause 63.13 in Option B provides that these rates and Prices may be used as a basis for assessment of compensation events instead of Defined Cost.
- 2.2.4. Where this contract requires detailed drawings, designs or other information to be provided, and no rates or prices are included in the *bill* specifically for such matters, then the *Contractor* is deemed to have allowed for all costs associated with such requirements within the tendered rates and Prices in the Bill of Quantities.

¹ Provisional Sums should not be used unless absolutely unavoidable. Rather include specifications and associated bill items for the most likely scope of work, and then change later using the compensation event procedure if necessary. This is because tenderers cannot programme effectively for unknown scopes of work



- 2.2.5. An item against which no Price is entered will be treated as covered by other Prices or rates in the *bill of quantities*. If a number of items are grouped together for pricing purposes, this will be treated as a single lump sum.
- 2.2.6. The quantities contained in the Bill of Quantities may not be final and do not necessarily represent the actual amount of work to be done. The quantities of work assessed and certified for payment by the *Project Manager* at each assessment date will be used for determining payments due and not the quantities given in the Bill of Quantities.
- 2.2.7. The short descriptions of the items of payment given in the *bill of quantities* are only for the purposes of identifying the items. More detail regarding the extent of the work entailed under each item is provided in the Works Information.

2.3. Departures from the *method of measurement*

2.4. Amplification of or assumptions about measurement items

For the avoidance of doubt the following is provided to assist in the interpretation of descriptions given in the *method of measurement*. In the event of any ambiguity or inconsistency between the statements in the *method of measurement* and this section, the interpretation given in this section shall be used.



C2.2 The bill of quantities

KLERKSDORP SEWER, ROOF & CRACK REPAIRS AND SEALANT - Estimates					
ITEM	CIVIL WORKS INFORMATION	UNIT	QTY	Rate	AMOUNT
1.0	'Preliminary and General (Show Cost Breakdown)				
1.1	Contractor to provide breakdown	Sum	1		R
Sub Total					R
2	Site Work				
2.1	Sewer system inspections and repair				
2.1.1	Break the existing concrete slab	m ³	3.6		R
2.1.2	Excavate the area to expose the sewer system piping.	m ³	22		R
2.1.3	Inspect the sewer system to locate the source of the blockage.	sum	1		R
2.1.4	Backfill the excavated area using appropriate bedding and backfill materials to support the new pipe and prevent future settling or damage, as described in the scope of works.	m ³	22		R
2.1.5	Reinstate the broken concrete slabs	m ³	3.6		R
2.2	Roof inspection and repairs.				
2.2.1	Conduct roof inspections.	sum	1		R
2.3	Labour to replace sealant joints in the tank farm, spill basin and the manifold.				
2.3.1	Carefully remove existing sealant joints.	m	300		R
2.3.2	Clean and prepare all expansion joints.	m	300		R
2.3.3	Inspect all expansion joints for damages.	Sum	1		R
2.3.5	Insert a sealant backing cord into the expansion joint openings	m	300		R
2.3.6	Inject a self-levelling silicone joint sealant to all the expansion joint	m	300		R
2.4	Repair Cracks in the Bund Floors and Bund Walls of the Tank Farm, Spill Basin, and the Manifold.				
2.4.1	Clean the slab to remove dirt, dust, sludge, oil, and contaminants	sum	1		R
2.4.2	Ream the crack 20 mm wide and 10 mm deep with an angle grinder.	m	50		R
2.4.3	Remove all loose material with a wire brush and a vacuum cleaner.	m	50		R



2.4.4	Supply, mix and apply a two-component, structural repair epoxy mortar into the reamed crack	m	50		R
2.4.5	Smooth the two-component, structural repair epoxy mortar.	m	50		R
2.5	Allowance for repairing sewer pipe defects				
2.5.1	Cut and remove the damaged section of the sewer pipe.	m	15		R
2.5.2	Supply the necessary piping for repairs.	sum	1		R
2.5.3	Supply the necessary pipe joint, gaskets, seals and fittings (elbows, tees, couplings)	Sum	1		R
2.5.4	Install the new section of sewer pipe, ensuring proper alignment and connection to existing infrastructure, in accordance with SANS 10400-Part P standards.	m	15		R
2.5.5	Supply bedding sand	m ³	1.0		R
	Provision Allowance for roof repairs				
2.5.4	Remove damaged roof sheeting.	m ²	90		R
2.5.5	Detach and remove rotten wood purling from the structure	m ²	90		R
2.5.6	Supply roof sheeting and fasteners matching the existing ones on the control room building.	No	15		R
2.5.7	Supply wooden purling and fasteners matching the existing ones on the control room building.	No	14		R
2.5.8	Install the new purlins and secure them with appropriate fasteners.	No	14		R
2.5.9	Install and fasten the roof sheeting using appropriate fasteners.	No	15		R
2.5.10	Supplying roof paint and painting the new roof sheeting to match the existing roof sheeting color.	m ²	90		R
	Allowance for repairing slab joints				
2.5.10	Mix and apply concrete repair mortar to damaged expansion joints	Sum	1		R
Sub Total					R
3.0	Waste disposal				
3.1	Dispose waste in accordance to local municipality requirements	Sum	1		R
Sub Total					R
Total					R