PART 2: PRICING DATA
ECC3 Option B

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C2.1 Pricing assumptions: Option B

1. How work is priced and assessed for payment

Clause 11 in NEC3 Engineering and Construction Contract (ECC3) 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.

(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.

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 specifications and descriptions of the work or any constraints on 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.

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 Guidance Notes before preparing the *bill of quantities* or before entering rates and lump sums into the *bill*.

There is no general provision in Option B for payment for materials on Site before incorporation into the *works*. If secondary Option X14 Advanced payment has not been used then the tendering contractor may obtain the same effect by inserting appropriate items in the method related charges where the *method of measurement* allows, or alternatively making allowance in the rates of the *bill of quantities* for the financing of Plant and Materials until they are incorporated in the *works.*

When compensation events arise, the default position is that the Bill of Quantities is not used to calculate the cost effect of the event. Defined Cost and the resulting Fee is used and Defined Cost includes all components of cost which the *Contractor* is likely to incur, including so called P & G items. Rates and lump sums from the Bill of Quantities, or from any other source, may be used instead of Defined Cost and the Fee only if the *Contractor* and *Project Manager* agree. If they are unable to agree, then Defined Cost

plus Fee is used.

4. Measurement and payment

4.1. 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
sum	Lump sum
t	tonne (1000kg)

4.2. General assumptions

4.2.1. Unless otherwise stated, items are measured net in accordance with the drawings, and no allowance has been made in the quantities for waste.

4.2.2. 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.

4.2.3. An item against which no Price is entered will be treated as covered by other Prices or rates in the *bill of quantities*.

4.2.4. 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.

4.2.5. The short descriptions of the items of payment given in the *bill of quantities* are only for the purposes of identifying the items. Detail regarding the extent of the work entailed under each item is provided in the Works Information.

4.3. Departures from the *method of measurement*

4.3.1.

4.4. Amplification of or assumptions about measurement items

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.

4.4.1.

C2.2 the *bill of quantities*

The Price List is as the attached pricing schedules. **Please note that the works is outage related per feeder bays at Olympus substation**.

Commented [MS1]: Bill of Quantities for Olympus Substation to replace these tables' data

STATION:	**Camden 400kV Yard Substation**				Page 1
		TOTAL	**COATING**	**LABOUR**	**TOTAL**
EQUIPMENT	**NO.**	**AREA**	**COST**	**COST**	**COST**
DUVHA FEEDER BAY					
Circuit Breaker Supports	3	42.285			R -
Circuit Breaker Chambers	6	74.371			R -
Grading Capacitors	6	33.276			R -
Site Establishment	1				
			R -	R -	R -
SOL NO. 1 FEEDER BAY					
Capacitor Voltage Transformers	3	32.097			R -
Site Establishment	1				
			R -	R -	R -
SOL NO. 2 FEEDER BAY					
Capacitor Voltage Transformers	3	32.097			R -
Site Establishment	1				
			R -	R -	R -
TUTUKA NO. 1 FEEDER BAY					

Capacitor Voltage Transformers	3	32.097			R -
Site Establishment	1				
			R -	R -	R -
CHIVELSTON NO.1 FDR BAY					
Capacitor Voltage Transformers	3	32.097			R -
Site Establishment	1				
			R -	R -	R -
GENERATOR NO. 3 BAY					
Current Transformers	3	52.845			R -
Site Establishment	1				
			R -	R -	R -
BUS SECTION 1					
Current Transformers	1	17.615			R -
Busbar cvt	1	10.699			R -
Site Establishment	1				
			R -	R -	R -
Total for Camden 400kV Yard					**R -**

ESKOM HOLDINGS SOC LTD - SUPPLY AND APPLICATION OF RTV SILICONE RUBBER COATING(INCLUDING SHED EXTENDERS WHEN REQUIRED) ON PORCELAIN SURFACED EQUIPMENT AT MATLA SUBSTATION						
BILL NO. 5 - MATLA 275kV RECOAT						
THE FOLLOWING IN RECOAT PAINTWORK TO MATLA SUBSTATION SPECIAL FINISHES	Supply and application of Room Temperature Vulcanized (RTV) Silicone Rubber Insulator Coating on ceramic HV equipment, including preparation, cleaning etc., as per the Engineers specifications (Doc 240-56063877 and 240-56062705) :					
MATLA 275KV YARD RE-COATING ESKOM						
EQUIPMENT	**No.**	**Paint required**	**Total Vol of paint**	**Coating material**	**Labour & Application**	**TOTAL AMOUNT**
			(2)	**(3)**	**(4)**	**(3 + 4)**
Benburg Feeder						
Isolator posts	18	3.600	64.80			R 0.00
Breaker chambers	3	4.450	13.35			R 0.00
Breaker supports	3	1.800	5.400			R 0.00
Current transformers	3	5.000	15.00			R 0.00
Line trap supports	2	3.600	7.200			R 0.00
Voltage transformers	1	4.000	4.00			R 0.00
Surge arrestors	3	4.400	13.20			R 0.00
Site establishment, HSE	1					
				R 0.00	R 0.00	R 0.00
Esselen Feeder						
Isolator posts	18	3.600	64.80			R 0.00
Breaker chambers	3	4.450	13.35			R 0.00
Breaker supports	3	1.800	5.400			R 0.00
Current transformers	3	5.000	15.00			R 0.00
Line trap supports	2	3.600	7.200			R 0.00
Voltage transformers	3	4.000	12.00			R 0.00
Surge arrestors	3	4.400	13.20			R 0.00
Site establishment, HSE	1					
				R 0.00	R 0.00	R 0.00

Nevis no:1 Feeder						
Isolator posts	18	3.600	64.80			R 0.00
Breaker chambers	3	4.450	13.35			R 0.00
Breaker supports	3	4.400	13.200			R 0.00
Current transformers	2	5.000	10.00			R 0.00
Current transformers	1	5.000	5.00			R 0.00
Line trap supports	2	3.600	7.200			R 0.00
Voltage transformers	3	4.000	12.00			R 0.00
Surge arrestors	3	4.400	13.20			R 0.00
Site establishment, HSE	1					
				R 0.00	R 0.00	R 0.00

Nevis no:2 Feeder						
Isolator posts	18	3.600	64.80			R 0.00
Breaker chambers	1	4.450	4.45			R 0.00
Breaker supports	1	4.400	4.400			R 0.00
Current transformers	3	5.000	15.00			R 0.00
Line trap supports	6	3.600	21.60			R 0.00
Voltage transformers	3	4.000	12.000			R 0.00
Surge arrestors	3	4.400	13.20			R 0.00
Site establishment, HSE	1					
				R 0.00	R 0.00	R 0.00

Kruispunt Feeder						
Isolator posts	27	5.000	135.00			R 0.00
Breaker chambers	1	4.450	4.45			R 0.00
Breaker supports	1	4.400	4.400			R 0.00
Current transformers	2	5.000	10.00			R 0.00
Current transformers	1	5.000	5.00			R 0.00
Line trap supports	2	3.600	7.200			R 0.00
Voltage transformers	3	4.000	12.00			R 0.00
Surge arrestors	1	4.400	4.40			R 0.00
Site establishment, HSE	1					
				R 0.00	R 0.00	R 0.00

Transformer no: 1						
Isolator posts	18	5.000	90.00			R 0.00
Breaker chambers	1	4.450	4.45			R 0.00
Grading resistors	1	4.000	4.00			R 0.00
Breaker supports	1	6.000	6.000			R 0.00
Earth Links	3	5.000	15.00			R 0.00

Current transformers	3	5.000	15.00			R 0.00
Voltage transformers	3	4.000	12.00			R 0.00
Surge arrestors	3	4.400	13.20			R 0.00
Site establishment, HSE	1					
				R 0.00	R 0.00	R 0.00

Bus section no: 1						
Isolator posts	12	5.000	60.00			R 0.00
Breaker chambers	3	4.450	13.35			R 0.00
Breaker supports	3	4.400	13.200			R 0.00
Current transformers	6	5.000	30.00			R 0.00
Site establishment, HSE	1					
				R 0.00	R 0.00	R 0.00

Bus section no: 2						
Isolator posts	12	5.000	60.00			R 0.00
Breaker chambers	3	4.450	13.35			R 0.00
Breaker supports	3	4.400	13.200			R 0.00
Current transformers	6	5.000	30.00			R 0.00
Site establishment, HSE	1					
				R 0.00	R 0.00	R 0.00

Bus Coupler no: A						
Isolator posts	12	5.000	60.00			R 0.00
Breaker chambers	3	4.450	13.35			R 0.00
Breaker supports	3	4.400	13.200			R 0.00
Current transformers	6	5.000	30.00			R 0.00
Site establishment, HSE	1					
				R 0.00	R 0.00	R 0.00

Bus Coupler no: B						
Isolator posts	12	5.000	60.00			R 0.00
Breaker chambers	3	4.450	13.35			R 0.00
Breaker supports	3	4.400	13.200			R 0.00
Current transformers	6	5.000	30.00			R 0.00
Site establishment, HSE	1					
				R 0.00	R 0.00	R 0.00

Busbar						
Voltage transformers	4	5.000	20.00			R 0.00
Isolator posts	9	5.000	45.00			R 0.00
Site establishment, HSE	1					R 0.00

				R 0.00	R 0.00	R 0.00

Generator no: 3						
Isolator posts	12	5.000	60.00			R 0.00
Breaker chambers	3	4.450	13.35			R 0.00
Breaker supports	3	4.400	13.200			R 0.00
Current transformers	3	5.000	15.00			R 0.00
Earth Link	3	6.000	18.00			R 0.00
Voltage transformers	1	5.000	5.00			R 0.00
Voltage transformers	2	5.000	10.00			R 0.00
Site establishment, HSE	1					
				R 0.00	R 0.00	R 0.00

Generator no: 4						
Isolator posts	12	5.000	60.00			R 0.00
Breaker chambers	3	4.450	13.35			R 0.00
Breaker supports	3	4.400	13.200			R 0.00
Earth Links	3	6.000	18.00			R 0.00
Current transformers	3	5.000	15.00			R 0.00
Voltage transformers	1	5.000	5.00			R 0.00
Voltage transformers	2	5.000	10.00			R 0.00
Site establishment, HSE	1					
				R 0.00	R 0.00	R 0.00

Generator no: 5						
Isolator posts	12	5.000	60.00			R 0.00
Breaker chambers	3	4.450	13.35			R 0.00
Breaker supports	3	4.400	13.200			R 0.00
Current transformers	3	5.000	15.00			R 0.00
Earth Link	3	6.000	18.00			R 0.00
Voltage transformers	1	5.000	5.00			R 0.00
Voltage transformers	2	5.000	10.00			R 0.00
Site establishment, HSE	1					
				R 0.00	R 0.00	R 0.00

Generator no: 6						
Isolator posts	12	5.000	60.00			R 0.00
Breaker chambers	3	4.450	13.35			R 0.00
Breaker supports	3	4.400	13.200			R 0.00
Current transformers	3	5.000	15.00			R 0.00
Earth Link	3	6.000	18.00			R 0.00
Voltage transformers	1	5.000	5.00			R 0.00

Voltage transformers	2	5.000	15.00			R 0.00
Site establishment, HSE	1					
				R 0.00	R 0.00	R 0.00

Total	0.00

ESKOM HOLDINGS SOC LTD - SUPPLY AND APPLICATION OF RTV SILICONE RUBBER COATING(INCLUDING SHED EXTENDERS WHEN REQUIRED) ON PORCELAIN SURFACED EQUIPMENT AT MATLA SUBSTATION						
BILL NO. 4 - MATLA 400kV RECOAT						
THE FOLLOWING IN RECOAT PAINTWORK TO MATLA SUBSTATION SPECIAL FINISHES	Supply and application of Room Temperature Vulcanized (RTV) Silicone Rubber Insulator Coating on ceramic HV equipment, including preparation, cleaning etc., as per the Engineers specifications (Doc 240-56063877 and 240-56062705) :					
MATLA 400KV YARD RE-COATING						
EQUIPMENT	**No.**	**Paint required**	**Total Vol of paint**	**Coating material**	**Labour & Application**	**TOTAL AMOUNT**
				(3)	**(4)**	**(3 + 4)**
Glockner no:1 Feeder						
Isolator posts	18	5	90			R 0.00
Support posts	8	5.600	44.80			R 0.00
Earth link posts	3	5.200	15.60			R 0.00
Breaker chambers	6	5.200	31.20			R 0.00
Breaker supports	3	7.000	21.00			R 0.00
pantograph drives	3	5.600	16.80			R 0.00
Pantograph supports	3	5.600	16.800			R 0.00
Current transformers	3	8.600	25.800			R 0.00
Line trap supports	6	5.800	34.800			R 0.00
Voltage transformers	3	5.300	15.90			R 0.00
Surge arrestors	3	6.000	18.000			R 0.00
Site establishment, HSE	1					
				R 0.00	R 0.00	R 0.00
Glockner no:2 Feeder						
Isolator posts	12	5.000	60.00			R 0.00
Isolator posts	6	5.000	30.00			R 0.00
Support posts	8	5.600	44.800			R 0.00
Earth link posts	3	5.200	15.60			R 0.00

Breaker chambers	6	5.200	31.200			R 0.00
Breaker supports	3	7.000	21.000			R 0.00
pantograph drives	3	5.600	16.80			R 0.00
Pantograph supports	3	5.600	16.800			R 0.00
Current transformers	3	8.600	25.800			R 0.00
Line trap supports	6	5.800	34.800			R 0.00
Voltage transformers	3	5.300	15.90			R 0.00
Surge arrestors	3	6.000	18.000			R 0.00
Site establishment, HSE	1					
				R 0.00	R 0.00	R 0.00
Grootvlei Feeder						
Isolator posts	18	5.000	90.00			R 0.00
Support posts	8	5.600	44.800			R 0.00
Earth link posts	3	5.200	15.60			R 0.00
Breaker chambers	6	5.200	31.200			R 0.00
Breaker supports	3	7.000	21.000			R 0.00
pantograph drives	3	5.600	16.80			R 0.00
Pantograph supports	3	5.600	16.800			R 0.00
Current transformers	3	8.600	25.800			R 0.00
Line trap supports	6	5.800	34.800			R 0.00
Voltage transformers	3	5.300	15.90			R 0.00
Surge arrestors	3	6.000	18.000			R 0.00
Site establishment, HSE	1					
				R 0.00	R 0.00	R 0.00

Zeus Feeder						
Isolator posts	18	5.000	90.00			R 0.00
Surport posts	6	5.600	33.600			R 0.00
Support posts	2	5.600	11.20			R 0.00
Earth link posts	3	5.200	15.600			R 0.00
Breaker chambers	6	5.200	31.200			R 0.00
Breaker supports	3	7.000	21.00			R 0.00
pantograph drives	3	5.600	16.800			R 0.00
Pantograph supports	3	5.600	16.800			R 0.00
Current transformers	3	8.600	25.800			R 0.00
Line trap supports	6	5.800	34.800			R 0.00
Voltage transformers	3	5.300	15.90			R 0.00
Surge arrestors	3	6.000	18.000			R 0.00
Site establishment, HSE	1					
				R 0.00	R 0.00	R 0.00
Duvha Feeder						
Isolator posts	18	5.000	90.00			R 0.00

Support posts	2	5.600	11.200			R 0.00
Earth link posts	3	5.200	15.60			R 0.00
Breaker chambers	6	5.200	31.200			R 0.00
Breaker supports	3	7.000	21.000			R 0.00
pantograph drives	3	5.600	16.80			R 0.00
Pantograph supports	3	5.600	16.800			R 0.00
Current transformers	3	8.600	25.800			R 0.00
Line trap supports	6	5.800	34.800			R 0.00
Voltage transformers	3	5.300	15.90			R 0.00
Surge arrestors	3	6.000	18.000			R 0.00
Site establishment, HSE	1					
				R 0.00	R 0.00	R 0.00

Transfer bus						
Isolator posts	12	5.000	60.00			R 0.00
Support posts	7	5.600	39.200			R 0.00
Breaker chambers	6	5.200	31.20			R 0.00
Breaker supports	3	7.000	21.000			R 0.00
pantograph drives	3	1.263	3.79			R 0.00
Pantograph supports	3	5.600	16.800			R 0.00
Current transformers	3	5.600	16.800			R 0.00
Site establishment, HSE	1					
				R 0.00	R 0.00	R 0.00
Transformer 1						
Isolator posts	6	5.000	30.00			R 0.00
Support posts	7	5.600	39.200			R 0.00
Earth link posts	3	5.200	15.60			R 0.00
Breaker chambers	18	5.500	99.00			R 0.00
Breaker grading caps	18	5.200	93.60			R 0.00
Breaker supports	9	5.200	46.800			R 0.00
pantograph drives	3	1.263	3.79			R 0.00
Pantograph supports	3	5.600	16.800			R 0.00
Current transformers	1	5.600	5.600			R 0.00
Current transformers	2	5.600	11.200			R 0.00
Transformer Bushings 400kV	3	12.000	36.000			R 0.00
Transformer bushings 275kV	3	10.000	30.000			R 0.00
Surge arrestors	3	6.000	18.00			R 0.00
Site establishment, HSE & Skyjack	1					R 0.00
				R 0.00	R 0.00	R 0.00
Voltage transformers	2	5.300	10.600			R 0.00

				R 0.00	R 0.00	R 0.00

Generator 2						
Isolator posts	6	5.000	30.00			R 0.00
Support posts	7	5.000	35.000			R 0.00
Earth link posts	3	5.600	16.80			R 0.00
Breaker chambers	6	5.200	31.200			R 0.00
Breaker supports	3	5.200	15.600			R 0.00
pantograph drives	3	7.000	21.00			R 0.00
Pantograph supports	3	5.600	16.800			R 0.00
Current transformers	2	5.600	11.200			R 0.00
Current transformers	1	8.600	8.600			R 0.00
Line trap supports	6	5.800	34.800			R 0.00
Voltage transformers	1	5.300	5.30			R 0.00
Voltage transformers	1	5.300	5.30			R 0.00
Voltage transformers	1	5.300	5.30			R 0.00
Site establishment, HSE	1					
				R 0.00	R 0.00	R 0.00

Generator 1						
Isolator posts	6	5.000	30.00			R 0.00
Support posts	7	5.000	35.000			R 0.00
Earth link posts	3	5.600	16.80			R 0.00
Breaker chambers	6	5.200	31.200			R 0.00
Breaker supports	3	5.200	15.600			R 0.00
pantograph drives	3	7.000	21.00			R 0.00
Pantograph supports	3	5.600	16.800			R 0.00
Current transformers	3	5.600	16.80			R 0.00
Voltage transformers	1	5.300	5.30			R 0.00
Voltage transformers	2	5.300	10.60			R 0.00
Site establishment, HSE	1					
				R 0.00	R 0.00	R 0.00

Bus Coupler no: A						
Isolator posts	12	5.000	60.00			R 0.00
Support posts	1	5.000	5.000			R 0.00
Breaker chambers	6	5.200	31.20			R 0.00
Breaker supports	3	5.200	15.600			R 0.00
Current transformers	6	5.600	33.60			R 0.00
Site establishment, HSE	1					
				R 0.00	R 0.00	R 0.00

Bus Coupler no: B						
Isolator posts	12	5.000	60.00			R 0.00
Support posts	1	5.000	5.000			R 0.00
Breaker chambers	6	5.200	31.20			R 0.00
Breaker supports	3	5.200	15.600			R 0.00
Current transformers	6	5.600	33.60			R 0.00
Site establishment, HSE	1					
				R 0.00	R 0.00	R 0.00

Bussection						
Isolator posts	12	5.000	60.00			R 0.00
Breaker chambers	6	5.200	31.200			R 0.00
Breaker supports	3	5.200	15.60			R 0.00
Current transformers	6	5.600	33.600			R 0.00
Site establishment, HSE	1					
				R 0.00	R 0.00	R 0.00

Busbar						
Voltage transformers	2	5.600	11.20			R 0.00
Voltage transformers	1	5.600	5.60			R 0.00
Site establishment, HSE	1					
				R 0.00	R 0.00	R 0.00

Total	R 0.00

SILICON COATING EQUIPMENT FOR SUBSTATION SUMMARY

Item No	Description	Amount
2	**CAMDEN 400KV YARD (RE-COAT)**	R 0.00
2.1	400kV Yard	
	Sub-Total 1	**R 0.00**
3	**MATLA 275kV RECOAT**	
3.1	275KV Yard	
	Sub-Total 1	
4	**MATLA 400kV RECOAT**	
4.1	400KV Yard	R 0.00
	Sub-Total 1	**R 0.00**
	Grand Total	**R 0.00**