

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 <i>bill of quantities</i> 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
		<ul style="list-style-type: none">• the quantity of the work which the <i>Contractor</i> 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 <i>Contractor</i> 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.**

OLYMPUS 132kV HV 275/132/33/11kV YARD

STATION:	OLYMPUS	132kV/22KV			
EQUIPMENT	Qty	Ea (Unit)	Total Area	Each	Total
TRANSFORMER 1 BAY					
Isolator Posts	12	1,674	20,088		
Breaker Supports	3	1,640	4,92		
Breaker Drives	3	1,199	3,597		
Breaker Chambers	6	1,939	11,634		
Breaker Grading Caps	6	0,722	4,332		
Current Transformers	3	4,517	13,551		
Surge Arresters	3	2,135	6,405		
Transformer Bushings	3	2,065	6,195		
Neutral Bushings	1	0,500	0,500		
Site Establishment	1				
TRANSFORMER 2 BAY					
Isolator Posts	12	1,725	20,7		
Breaker Supports	3	2,702	8,106		
Breaker Chambers	3	3,420	10,26		
Current Transformers	3	3,055	9,165		
Surge Arresters	3	2,135	6,405		
Transformer Bushings	3	3,245	9,735		
Neutral Bushings	1	0,500	0,5		
Site Establishment	1				

STATION:	OLYMPUS	132kV/11KV			
EQUIPMENT	NO.	AREA / UNIT	TOTAL AREA		
TRANSFORMER 21 BAY					
Isolator Posts	18	1,725	31,05		
Breaker Supports	3	2,702	8,106		
Breaker Chambers	3	3,420	10,26		
Current Transformers	3	3,818	11,454		
Surge Arresters	3	1,859	5,577		
Transformer Bushings	3	3,245	9,735		
11kV Bushings	3	0,364	1,092		
NEC Bushings	5	0,469	2,345		
11kV VT's	3	0,249	0,747		
11kV CT's	3	0,729	2,187		
11kV Isolator Posts	9	0,301	2,709		
Cable End Supports	6	0,298	1,788		
Site Establishment	1				
TRANSFORMER 22 BAY					
Isolator Posts	18	1,725	31,05		
Breaker Supports	3	2,702	8,106		
Breaker Chambers	3	3,789	11,367		
Current Transformers	3	3,818	11,454		
Surge Arresters	3	2,135	6,405		
Transformer Bushings	3	2,065	6,195		
11kV Bushings	3	0,364	1,092		
NEC Bushings	5	0,469	2,345		
11kV VT's	3	0,249	0,747		
11kV CT's	3	0,729	2,187		
11kV Isolator Posts	9	0,301	2,709		
Cable End Supports	6	0,298	1,788		
Site Establishment	1				

STATION:	OLYMPUS	132kV/11KV			
EQUIPMENT	NO.	AREA / UNIT	TOTAL AREA		
TRANSFORMER 23 BAY					
Isolator Posts	18	1,725	31,05		
Breaker Supports	3	2,702	8,106		
Breaker Chambers	3	3,789	11,367		
Current Transformers	3	3,818	11,454		
Surge Arresters	3	1,859	5,577		
Transformer Bushings	3	3,245	9,735		
11kV Bushings	3	0,364	1,092		
NEC Bushings	5	0,469	2,345		
11kV VT's	3	0,249	0,747		
11kV CT's	3	0,729	2,187		
11kV Isolator Posts	9	0,301	2,709		
Cable End Supports	6	0,298	1,788		
Site Establishment	1				
TRANSFORMER 24 BAY					
Isolator Posts	18	1,725	31,05		
Breaker Supports	3	2,702	8,106		
Breaker Chambers	3	3,789	11,367		
Current Transformers	3	6,129	18,387		
Surge Arresters	3	1,859	5,577		
Transformer Bushings	3	3,245	9,735		
11kV Bushings	3	0,364	1,092		
NEC Bushings	5	0,469	2,345		
11kV VT's	3	0,249	0,747		
11kV CT's	3	0,729	2,187		
11kV Isolator Posts	9	0,301	2,709		
Cable End Supports	6	0,298	1,788		
Site Establishment	1				

STATION:	OLYMPUS	132KV/11KV			
EQUIPMENT	NO.	AREA / UNIT	TOTAL AREA		
TRANSFORMER 25 BAY					
Isolator Posts	18	1,725	31,05		
Breaker Supports	3	2,702	8,106		
Breaker Chambers	3	3,789	11,367		
Current Transformers	3	3,055	9,165		
Surge Arresters	3	1,859	5,577		
Transformer Bushings	3	3,245	9,735		
11kV Bushings	3	0,364	1,092		
NEC Bushings	5	0,469	2,345		
11kV VT's	3	0,249	0,747		
11kV CT's	3	0,729	2,187		
11kV Isolator Posts	9	0,301	2,709		
Cable End Supports	6	0,298	1,788		
Site Establishment	1				
TRANSFORMER 26 BAY					
Isolator Posts	18	1,725	31,05		
Breaker Supports	3	2,702	8,106		
Breaker Chambers	3	3,789	11,367		
Current Transformers	3	3,818	11,454		
Surge Arresters	3	1,859	5,577		
Transformer Bushings	3	2,575	7,725		
11kV Bushings	3	0,364	1,092		
NEC Bushings	5	0,469	2,345		
11kV VT's	3	0,249	0,747		
11kV CT's	3	0,729	2,187		
11kV Isolator Posts	9	0,301	2,709		
Cable End Supports	6	0,298	1,788		
Site Establishment	1				

STATION:	OLYMPUS	132kV			
EQUIPMENT	NO.	AREA / UNIT	TOTAL AREA		
BUS COUPLER					
Isolator Posts	12	1,674	20,088		
Breaker Supports	3	1,640	4,920		
Breaker Drives	3	1,199	3,597		
Breaker Chambers	6	1,939	11,634		
Breaker Grading Caps	6	0,722	4,332		
Current Transformer	6	6,391	38,346		
Site Establishment	1				
BUSBARS					
Isolator Posts	12	1,674	20,088		
Voltage Transformers	4	3,172	12,688		
Voltage Transformers	2	3,114	6,228		
ARGON FEEDER BAY					
Isolator Posts	18	1,725	31,050		
Breaker Supports	3	1,640	4,920		
Breaker Drives	3	1,199	3,597		
Breaker Chambers	6	1,939	11,634		
Breaker Grading Caps	6	0,722	4,332		
Current Transformers	3	3,147	9,441		
Surge Arresters	3				
Site Establishment	1				

STATION:	OLYMPUS	132kV			
EQUIPMENT	NO.	AREA / UNIT	TOTAL AREA		
BLOWER FEEDER BAY					
Isolator Posts	12	1,674	20,088		
Isolator Posts	6	1,725	10,350		
Breaker Supports	3	1,640	4,920		
Breaker Drives	3	1,199	3,597		
Breaker Chambers	6	1,939	11,634		
Breaker Grading Caps	6	0,722	4,332		
Current Transformers	3	3,055	9,165		
Surge Arresters	3	1,859	5,577		
Site Establishment	1				

OLYMPUS 33kV HV 275/132/33/11kV YARD

STATION: EQUIPMENT	NO.	AREA/UNIT	TOTAL AREA			
TRANSFORMER 14 NEC						
HV Bushings	3	0,664	1,992			
Neutral bushing	1	0,664	0,664			
Voltage transformers	3	0,664	1,992			
Current transformers	3	1,380	4,14			
Breaker chambers	3	0,903	2,709			
Breaker supports	3	0,903	2,709			
RESISTOR BANK (12)						
HV Bushing	1	0,838	0,838			
Current transformer	1	0,541	0,541			
TRANSFORMER 12 NEC						
Support insulators	3	0,553	1,659			
HV Bushings (+N)	4	0,489	1,956			
Voltage transformers	2	0,308	0,616			
Voltage transformer	1	0,323	0,323			
Current transformers	3	0,979	2,937			
Breaker bushings	6	0,527	3,162			

275/132/33/11kV YARD					
STATION: OLYMPUS 275kV					
AREA / TOTAL					
EQUIPMENT	NO.	AREA/UNIT	TOTAL AREA		
GLOCKNER FEEDER					
Surge Arresters	3	5,427	16,281		
Capacitor Voltage Transformers	3	5,473	16,419		
Line Traps	2	5,849	11,698		
Line Isolators	6	4,240	25,44		
Current Transformers	3	7,62	22,86		
CCT Breaker Chambers	12	1,939	23,268		
CCT Breaker Grading Capacitors	12	0,722	8,664		
CCT Breaker Supports	6	4,413	26,478		
CCT Breaker Drives	6	2,900	17,4		
Busbar Isolators	12	3,284	39,408		
Site Establishment	1				
SCAFELL FEEDER					
Surge Arresters	3	5,427	16,281		
Capacitor Voltage Transformers	3	5,473	16,419		
Line Traps	2	5,849	11,698		
Line Isolators	6	4,240	25,44		
Current Transformers	3	7,62	22,86		
CCT Breaker Chambers	12	1,939	23,268		
CCT Breaker Grading Capacitors	12	0,722	8,664		
CCT Breaker Supports	6	4,413	26,478		
CCT Breaker Drives	6	2,900	17,4		
Busbar Isolators	18	3,819	68,742		
Site Establishment	1				

STATION:	OLYMPUS	275kV			
EQUIPMENT	NO.	AREA / UNIT	TOTAL AREA		
RIGI FEEDER					
Surge Arresters	3	5,752	17,256		
Capacitor Voltage Transformers	3	6,616	19,848		
Line Trap Supports	6	5,414	32,484		
Line Isolators	9	4,173	37,557		
Current Transformers	3	10,714	32,142		
CCT Breaker Chambers	6	4,297	25,782		
CCT Breaker Grading Capacitors	6	2,375	14,25		
CCT Breaker Supports	3	5,106	15,318		
Busbar Isolators	18	4,173	75,114		
Support Posts	2	4,173	8,346		
Site Establishment	1				
BUS COUPLER					
Current Transformers	3	10,714	32,142		
CCT Breaker Chambers	12	1,939	23,268		
CCT Breaker Grading Capacitors	12	0,722	8,664		
CCT Breaker Supports	6	4,413	26,478		
CCT Breaker Drives	6	2,900	17,4		
Busbar Isolators	18	3,819	68,742		
Support Posts	3	4,173	12,519		
Site Establishment	1				
BUSBAR V.T.'S					
Busbar No. 1 V.T.	2	6,616	13,232		
Busbar No. 1 V.T.	1	7,378	7,378		
Busbar No. 2 V.T.	3	6,322	18,966		

STATION:	OLYMPUS 275kV				
EQUIPMENT	NO.	AREA/UNIT	TOTAL AREA		
TRANSFORMER NO. 11					
Busbar Isolators	18	3,819	68,742		
CCT Breaker Supports	3	6,080	18,24		
CCT Breaker Chambers	6	5,247	31,482		
Current Transformers	3	7,743	23,229		
Earth Links	3	4,411	13,233		
Surge Arresters	3	5,427	16,281		
H.V. Bushings	3	8,560	25,68		
L.V. Bushings (33kV)	3	0,919	2,757		
Neutral Bushing	1	1,016	1,016		
Surge Arresters (33kV)	3	0,775	2,325		
Capacitor Supports	3	0,429	1,287		
Site Establishment	1				
TRANSFORMER NO. 14					
Busbar Isolators	18	3,819	68,742		
CCT Breaker Chambers	6	5,247	31,482		
CCT Breaker Supports	6	6,080	18,24		
Current Transformers	3	7,743	23,229		
Earth Links	3	4,173	12,519		
Surge Arresters	3	4,730	14,19		
Support Insulators	3	4,173	12,519		
H.V. Bushings	3	7,296	21,888		
L.V. Bushings (33kV)	3	0,919	2,757		
Neutral Bushing	1	1,016	1,016		
Surge Arresters (33kV)	3	0,775	2,325		
Capacitor Supports	3	0,429	1,287		
Site Establishment	1				

STATION: OLYMPUS 275kV					
AREA / TOTAL					
EQUIPMENT	NO.	AREA/UNIT	TOTAL AREA		
TRANSFORMER NO. 1					
Busbar Isolators	12	3,284	39,408		
CCT Breaker Chambers	12	1,939	23,268		
CCT Breaker Grading Capacitors	12	0,722	8,664		
CCT Breaker Supports	6	4,413	26,478		
CCT Breaker Drives	6	2,900	17,4		
Current Transformers	3	7,743	23,229		
Earth Links	3	3,284	9,852		
Surge Arresters	3	5,427	16,281		
H.V. Bushings	3	7,296	21,888		
Site Establishment	1				
TRANSFORMER NO. 2					
Busbar Isolators	12	4,411	52,932		
CCT Breaker Chambers	12	1,939	23,268		
CCT Breaker Supports	12	4,413	26,478		
Current Transformers	3	5,828	17,484		
Earth Links	3	4,411	13,233		
Surge Arresters	3	5,427	16,281		
H.V. Bushings	3	10,13	30,39		
Site Establishment	1				

SILICON COATING EQUIPMENT FOR SUBSTATION SUMMARY

Item No	Description	Amount
1	OLYMPUS 132KV RECOAT	R 0.00
1.1	275/132/33kV Yard	
	Sub-Total 1	R 0.00
2	OLYMPUS 33kV RECOAT	R0.00
2.1	275/132/33kV Yard	
	Sub-Total 1	R0.00
3	OLYMPUS 275kV RECOAT	R0.00
3.1	275/132/33kV Yard	
	Sub-Total 1	R 0.00
4	OLYMPUS 11kV RECOAT	R0.00
4.1	275/132/33/11kV Yard	
	Sub-Total 1	R 0.00
	Grand Total	R 0.00