

C2.1 Pricing assumptions: Option B

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.

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.

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

REMEDIAL REPAIRS TO THE POLLUTION CONTROL DAMS, FUEL CONTAINMENT AREAS AND ASSOCIATED STORMWATER INFRASTRUCTURE AT ANKERLIG POWER STATION

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.

Measurement and payment

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)

General assumptions

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

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.

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

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.

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.

Unless otherwise stated in the Bill of Quantities, the rates and Prices include all labour, Plant and Materials, Contractor's Equipment, temporary works, access arrangements, protection, preparation, handling, storage, transport, supervision, quality control, testing, curing, waste handling, lawful disposal, reinstatement and all other work necessary to complete the relevant item in accordance with the Works Information.

Quantities stated in the Bill of Quantities are remeasured using the actual quantity of completed work in accordance with CESMM3, the descriptions in the Bill of Quantities and these Pricing Assumptions.

An item identified as "Rate only" is used only where the relevant work is required under the Works Information, instructed or otherwise becomes measurable in accordance with the contract. No payment is made merely because a rate has been entered against a Rate-only item

Departures from the *method of measurement*

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.

C2.2 the *bill of quantities*

Item No.	Description	Unit	Quantity	Rate (R)	Amount (R)
1. PRELIMINARY AND GENERAL – OVERALL WORKS					
1.1 Scheduled fixed-charge items					
1.1.1	Contractual requirements and contract administration for the whole of the works.	Sum	1		
1.1.2	Mobilisation and Site establishment for the whole of the works, including establishment as required by the Accepted Programme	Sum	1		
1.1.3	Setting out of the works	Item	1		
1.1.4	Health and safety fixed obligations, including initial plans, risk assessments, statutory appointments, safe work procedures, PPE and health and safety file requirements	Sum	1		
1.1.5	Environmental compliance fixed obligations, including initial Environmental Management Plan and activity-specific environmental planning	Sum	1		
1.1.6	Quality management fixed obligations, including initial Quality Plan, QCP/ITP preparation and document-control setup	Sum	1		
1.1.7	Final de-establishment, removal of temporary facilities and reinstatement of all work and establishment areas	Sum	1		
1.2 Scheduled time-related items – quantity to equal the overall contract duration stated in the Contract Data					
1.2.1	Contractual requirements and contract administration – time related	Month	18		
1.2.2	Contractor facilities and temporary services required for the whole of the works, including offices, storage, welfare facilities, temporary water and power arrangements, communications and access facilities – time related	Month	18		

REMEDIAL REPAIRS TO THE POLLUTION CONTROL DAMS, FUEL CONTAINMENT AREAS AND ASSOCIATED STORMWATER INFRASTRUCTURE AT ANKERLIG POWER STATION

Item No.	Description	Unit	Quantity	Rate (R)	Amount (R)
1.2.3	Contract management and supervision for the whole of the works, including sufficient supervision at simultaneously Ankerlig 1 and Ankerlig 2 work areas.	Month	18		
1.2.4	Transport, accommodation, mobilisation and logistics for Contractor personnel, Plant, Materials and Contractor's Equipment required for the whole of the works at Ankerlig Power Station.	Month	18		
1.2.5	Security of Contractor's Plant, Materials, Equipment and personnel – time related	Month	18		
1.2.6	Quality management and document control – time related	Month	18		
1.2.7	Health and safety compliance – time related	Month	18		
1.2.8	Environmental compliance – time related	Month	18		
P&G SUBTOTAL					R
2. ANKERLIG 1 – DIRTY WATER DAM: DEWATERING, ASSESSMENT AND CLEANING					
2.1	Bulk dewatering of the Ankerlig 1 Dirty Water Dam after operational release, including temporary pumping, hoses, tanks/transfer arrangements and residual-water control required by the Works Information	No	1		
2.2	Detailed condition assessment, measurement, photographs and Defect Mapping of the dewatered dam and associated structures, excluding separately measured NDT	No	1		
2.3	Non-destructive testing of dam concrete using the methods required by the Works Information	No	1		
2.4	Condition-assessment report, repair classification, measured quantities and proposed remedial measures, signed by the required Professional Civil Technologist or Professional Engineer	Item	1		

REMEDIAL REPAIRS TO THE POLLUTION CONTROL DAMS, FUEL CONTAINMENT AREAS AND ASSOCIATED STORMWATER INFRASTRUCTURE AT ANKERLIG POWER STATION

Item No.	Description	Unit	Quantity	Rate (R)	Amount (R)
2.5	Controlled cleaning and degreasing of internal dam surfaces using an accepted biodegradable, non-toxic degreasing system, including collection and control of wash water and residues	m²	4152		
2.6	Unblock subsoil drainage sump or associated drainage blockage identified during the condition assessment, including removal and lawful management of removed material	No	Rate only		
3. ANKERLIG 1 – CONCRETE, REINFORCEMENT AND CRACK REPAIRS					
3.1	Remove defective or spalled concrete to sound substrate	m²	800		
3.2	Clean and treat exposed reinforcement	m²	300		
3.3	Replace defective or significantly section-loss reinforcement	kg	20		
3.4	Apply accepted bonding system and polymer-modified/non-shrink structural repair mortar to prepared spalled areas	m²	800		
3.5	Remove delaminated or deeply defective concrete to sound material	m³	10		
3.6	Provide and place 30 MPa replacement concrete or accepted micro-concrete for deep repairs	m³	10		
3.7	Additional reinforcement of various diameters for deep repairs	kg	100		
3.8	Route/cut and prepare cracks to the accepted repair profile for flexible or mortar repair systems	m	1000		
3.9	Replace defective reinforcement exposed during crack repairs	kg	20		

REMEDIAL REPAIRS TO THE POLLUTION CONTROL DAMS, FUEL CONTAINMENT AREAS AND ASSOCIATED STORMWATER INFRASTRUCTURE AT ANKERLIG POWER STATION

Item No.	Description	Unit	Quantity	Rate (R)	Amount (R)
3.10	Clean and treat reinforcement exposed during crack repairs	m ²	200		
3.11	Non-shrink structural repair mortar specifically for routed/local crack repairs not measured under Item 3.4 or Item 3.6	m ³	20		
3.12	Low-viscosity epoxy injection repair to non-moving cracks, including preparation, packers and injection	m	Rate only		
4. ANKERLIG 1 – DAM JOINT, WATERSTOP AND SEALANT REPAIRS					
4.1	Remove defective existing joint sealant and backing material from dam joints	m	6000		
4.2	Remove and replace defective/displaced expansion board or compressible joint filler	m	6000		
4.3	Grind and prepare joint substrates; remove oil, algae, biofilm and loose material	m	2000		
4.4	Provide and install closed-cell backing rod or bond-breaker tape where required	m	800		
4.5	Prime where required and install accepted elastomeric sealant system to prepared dam joints	m	6000		
4.6	Replace compromised waterstops or joint tapes where required	m	650		
5. ANKERLIG 1 – FUEL-TANK BUND JOINT REPAIRS: GAS 1 TANKS 1, 2 AND 3					
5.1	Remove defective existing bund-joint sealant/backing and prepare joint faces	m	3000		
5.2	Provide and install closed-cell backing rod or bond-breaker tape compatible with fuel-oil exposure	m	3000		
5.3	Prime where required and install accepted fuel-resistant elastomeric sealant system to bund floor and wall joints	m	3000		

REMEDIAL REPAIRS TO THE POLLUTION CONTROL DAMS, FUEL CONTAINMENT AREAS AND ASSOCIATED STORMWATER INFRASTRUCTURE AT ANKERLIG POWER STATION

Item No.	Description	Unit	Quantity	Rate (R)	Amount (R)
5.4	Replace compromised waterstops or joint tapes in fuel-tank bunds where required	m	1000		
6. ANKERLIG 1 – TANK-TO-FOUNDATION INTERFACE SEALING: GAS 1 TANKS 1, 2 AND 3					
6.1	Inspect and remove existing annular sealant, debris and contaminants at tank-to-foundation interfaces	m	161.5		
6.2	Mechanically/solvent clean steel and concrete substrates at tank-to-foundation interfaces	m	161.5		
6.3	Provide bond breaker or backing material where required	m	161.5		
6.4	Install accepted fuel-resistant elastomeric sealant and finish to a water-shedding profile	m	161.5		
7. ANKERLIG 1 – UNDERGROUND STORMWATER DRAINAGE					
7.1	Pre-cleaning non-intrusive condition assessment of underground clean and dirty stormwater drainage using cage-protected drone, camera system or another accepted method	m	5000		
7.2	Pre-cleaning inspection report, route records, photographs and video deliverables	Item	1		
7.3	Controlled flushing/cleaning of underground drains using high-pressure jetting, vacuum-assisted flushing or another accepted method, including collection and control of flushed material and wastewater	m	5000		
7.4	Post-cleaning inspection of cleaned drainage sections	m	5000		
7.5	Post-cleaning inspection report, route records, photographs and video deliverables	Item	1		
ANKERLIG 1 SUBTOTAL					R
8. ANKERLIG 2 – DIRTY WATER DAM: DEWATERING, ASSESSMENT AND CLEANING					

REMEDIAL REPAIRS TO THE POLLUTION CONTROL DAMS, FUEL CONTAINMENT AREAS AND ASSOCIATED STORMWATER INFRASTRUCTURE AT ANKERLIG POWER STATION

Item No.	Description	Unit	Quantity	Rate (R)	Amount (R)
8.1	Bulk dewatering of the Ankerlig 2 Dirty Water Dam after operational release, including temporary pumping, hoses, tanks/transfer arrangements and residual-water control required by the Works Information	No	1		
8.2	Detailed condition assessment, measurement, photographs and Defect Mapping of the dewatered dam and associated structures, excluding separately measured NDT	No	1		
8.3	Non-destructive testing of dam concrete using the methods required by the Works Information	No	1		
8.4	Condition-assessment report, repair classification, measured quantities and proposed remedial measures, signed by the required Professional Civil Technologist or Professional Engineer	Item	1		
8.5	Controlled cleaning and degreasing of internal dam surfaces using an accepted biodegradable, non-toxic degreasing system, including collection and control of wash water and residues	m²	7058		
8.6	Unblock subsoil drainage sump or associated drainage blockage identified during the condition assessment, including removal and lawful management of removed material	No	Rate only		
9. ANKERLIG 2 – CONCRETE, REINFORCEMENT AND CRACK REPAIRS					
9.1	Remove defective or spalled concrete to sound substrate	m²	800		
9.2	Clean and treat exposed reinforcement	m²	300		
9.3	Replace defective or significantly section-loss reinforcement	Kg	20		

REMEDIAL REPAIRS TO THE POLLUTION CONTROL DAMS, FUEL CONTAINMENT AREAS AND ASSOCIATED STORMWATER INFRASTRUCTURE AT ANKERLIG POWER STATION

Item No.	Description	Unit	Quantity	Rate (R)	Amount (R)
9.4	Apply accepted bonding system and polymer-modified/non-shrink structural repair mortar to prepared spalled areas	m²	800		
9.5	Remove delaminated or deeply defective concrete to sound material	m³	10		
9.6	Provide and place 30 MPa replacement concrete or accepted micro-concrete for deep repairs	m³	10		
9.7	Additional reinforcement of various diameters for deep repairs	Kg	100		
9.8	Route/cut and prepare cracks to the accepted repair profile for flexible or mortar repair systems	M	1000		
9.9	Replace defective reinforcement exposed during crack repairs	Kg	20		
9.10	Clean and treat reinforcement exposed during crack repairs	m²	200		
9.11	Non-shrink structural repair mortar specifically for routed/local crack repairs not measured under Item 9.4 or Item 9.6	m³	20		
9.12	Low-viscosity epoxy injection repair to non-moving cracks, including preparation, packers and injection	M	Rate only		
10. ANKERLIG 2 – DAM JOINT, WATERSTOP AND SEALANT REPAIRS					
10.1	Remove defective existing joint sealant and backing material from dam joints	M	6000		
10.2	Remove and replace defective/displaced expansion board or compressible joint filler	M	6000		
10.3	Grind and prepare joint substrates; remove oil, algae, biofilm and loose material	m	2000		

REMEDIAL REPAIRS TO THE POLLUTION CONTROL DAMS, FUEL CONTAINMENT AREAS AND ASSOCIATED STORMWATER INFRASTRUCTURE AT ANKERLIG POWER STATION

Item No.	Description	Unit	Quantity	Rate (R)	Amount (R)
10.4	Provide and install closed-cell backing rod or bond-breaker tape where required	m	800		
10.5	Prime where required and install accepted elastomeric sealant system to prepared dam joints	m	6000		
10.6	Replace compromised waterstops or joint tapes where required	m	650		
11. ANKERLIG 2 – FUEL-TANK BUND JOINT REPAIRS: OCGT TANKS A AND B					
11.1	Remove defective existing bund-joint sealant and backing material, clean and prepare joint faces for the specified repair system.	m	3000		
11.2	Provide and install closed-cell backing rod or bond-breaker tape compatible with fuel-oil exposure	m	3000		
11.3	Prime where required and install accepted fuel-resistant elastomeric sealant system to bund floor and wall joints	m	3000		
11.4	Replace compromised waterstops or joint tapes in fuel-tank bunds where required	m	1000		
12. ANKERLIG 2 – TANK-TO-FOUNDATION INTERFACE SEALING: OCGT TANKS A AND B					
12.1	Inspect and remove existing annular sealant, debris and contaminants at tank-to-foundation interfaces	m	94.6		
12.2	Mechanically/solvent clean steel and concrete substrates at tank-to-foundation interfaces	m	94.6		
12.3	Provide bond breaker or backing material where required	m	94.6		
12.4	Install accepted fuel-resistant elastomeric sealant and finish to a water-shedding profile	m	94.6		
13. ANKERLIG 2 – UNDERGROUND STORMWATER DRAINAGE					

REMEDIAL REPAIRS TO THE POLLUTION CONTROL DAMS, FUEL CONTAINMENT AREAS AND ASSOCIATED STORMWATER INFRASTRUCTURE AT ANKERLIG POWER STATION

Item No.	Description	Unit	Quantity	Rate (R)	Amount (R)
13.1	Pre-cleaning non-intrusive condition assessment of underground clean and dirty stormwater drainage using cage-protected drone, camera system or another accepted method	m	5000		
13.2	Pre-cleaning inspection report, route records, photographs and video deliverables	Item	1		
13.3	Controlled flushing/cleaning of underground drains using high-pressure jetting, vacuum-assisted flushing or another accepted method, including collection and control of flushed material and wastewater	m	5000		
13.4	Post-cleaning inspection of cleaned drainage sections	m	5000		
13.5	Post-cleaning inspection report, route records, photographs and video deliverables	Item	1		
ANKERLIG 2 SUBTOTAL					R
24. RATE-ONLY ENVIRONMENTAL / WASTE ITEMS					
24.1	Off-Site transport and lawful disposal of hazardous or hydrocarbon-contaminated solid waste arising at Ankerlig where required by the Works Information and not otherwise included in a measured item	t	Rate only		
TOTAL OF THE PRICES (EXCLUDING VAT)					