

PART 2: PRICING DATA**ECC3 Option B**

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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, ASSOCIATED STORMWATER INFRASTRUCTURE, BERM AND HAZARDOUS-WASTE SKIP CONTAINMENT AREA AT GOURIKWA 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.

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.

Unless otherwise stated in the Bill of Quantities, 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, disposal, reinstatement and all other work necessary to complete the relevant item in accordance with the Works Information.

Quantities are remeasured from the actual work completed in accordance with CESMM3 and the measurement descriptions stated in the Bill of Quantities. Rate-only items are used only where the applicable work is required and instructed or otherwise becomes measurable in accordance with the contract.

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		

REMEDIAL REPAIRS TO THE POLLUTION CONTROL DAMS, FUEL CONTAINMENT AREAS, ASSOCIATED STORMWATER INFRASTRUCTURE, BERM AND HAZARDOUS-WASTE SKIP CONTAINMENT AREA AT GOURIKWA POWER STATION

Item No.	Description	Unit	Quantity	Rate (R)	Amount (R)
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		
1.2.3	Contract management and supervision for the whole of the works, including sufficient supervision at simultaneously active work areas at Gourikwa Power Station	Month	18		
1.2.4	Transport, accommodation, mobilisation and logistics for Contractor personnel, Plant, Materials and Contractor's Equipment required for the works at Gourikwa 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. GOURIKWA – BERM EXTENSION AND EROSION REPAIRS					
2.1	Clear vegetation, rubbish, debris and brush from the berm/erosion work area	m ²	250		
2.2	Strip, preserve, re-spread and lightly compact topsoil to the berm and erosion-repair areas as required by the Works Information	m ²	250		
2.3	Reuse suitable excavated material in berm/landscape filling	m ³	20		

Item No.	Description	Unit	Quantity	Rate (R)	Amount (R)
2.4	Supply and place G5 gravel material in berm works and compact as required by the Works Information	m ³	60		
2.5	Supply and place selected clay material and compact to at least 93% Mod AASHTO	m ³	15		
2.6	Compact natural or excavated ground surfaces	m ²	300		
2.7	Modified AASHTO density/compaction tests	No	18		
2.8	Establish accepted local indigenous vegetation by hand seeding or approved equivalent method	m ²	250		
2.9	Provide and install erosion blankets or equivalent temporary erosion-control measures	m ²	250		
2.10	Maintain landscaping and erosion-control works for three months until vegetation is established	Item	1		
3. GOURIKWA – DAMS: DEWATERING, ASSESSMENT AND CLEANING					
3.1	Bulk dewatering of the Gourikwa Clean Water Dam after operational release, including temporary pumping, hoses, tanks/transfer arrangements and residual-water control	No	1		
3.2	Bulk dewatering of the Gourikwa Dirty Water Dam after operational release, including temporary pumping, hoses, tanks/transfer arrangements and residual-water control	No	1		
3.3	Detailed condition assessment, measurement, photographs and Defect Mapping – Clean Water Dam, excluding separately measured NDT	No	1		

REMEDIAL REPAIRS TO THE POLLUTION CONTROL DAMS, FUEL CONTAINMENT AREAS, ASSOCIATED STORMWATER INFRASTRUCTURE, BERM AND HAZARDOUS-WASTE SKIP CONTAINMENT AREA AT GOURIKWA POWER STATION

Item No.	Description	Unit	Quantity	Rate (R)	Amount (R)
3.4	Detailed condition assessment, measurement, photographs and Defect Mapping – Dirty Water Dam, excluding separately measured NDT	No	1		
3.5	Non-destructive testing of Gourikwa dam concrete using the methods required by the Works Information	No	2		
3.6	Condition-assessment report and proposed remedial measures – Clean Water Dam, professionally signed as required	Item	1		
3.7	Condition-assessment report and proposed remedial measures – Dirty Water Dam, professionally signed as required	Item	1		
3.8	Controlled cleaning and degreasing of Gourikwa Clean Water Dam internal surfaces	m²	3520		
3.9	Controlled cleaning and degreasing of Gourikwa Dirty Water Dam internal surfaces	m²	5000		
3.10	Unblock subsoil drainage sump or associated drainage blockage identified during the condition assessment, including removal and lawful management of removed material	No	Rate only		
4. GOURIKWA – CONCRETE, REINFORCEMENT AND CRACK REPAIRS TO DAMS					
4.1	Remove defective or spalled concrete to sound substrate	m²	800		
4.2	Clean and treat exposed reinforcement	m²	300		
4.3	Replace defective or significantly section-loss reinforcement	kg	20		

Item No.	Description	Unit	Quantity	Rate (R)	Amount (R)
4.4	Apply accepted bonding system and polymer-modified/non-shrink structural repair mortar to prepared spalled areas	m ²	800		
4.5	Remove delaminated or deeply defective concrete to sound material	m ³	20		
4.6	Provide and place 30 MPa replacement concrete or accepted micro-concrete for deep repairs	m ³	20		
4.7	Additional reinforcement of various diameters for deep repairs	kg	100		
4.8	Route/cut and prepare cracks to the accepted repair profile for flexible or mortar repair systems	m	1000		
4.9	Replace defective reinforcement exposed during crack repairs	kg	20		
4.10	Clean and treat reinforcement exposed during crack repairs	m ²	200		
4.11	on-shrink structural repair mortar specifically for routed/local crack repairs not measured under item 4.4 or 4.6	m ³	20		
4.12	Low-viscosity epoxy injection repair to non-moving cracks, including preparation, packers and injection	m	Rate only		
5. GOURIKWA – DAM JOINT, WATERSTOP AND SEALANT REPAIRS					
5.1	Remove defective existing joint sealant and backing material from dam joints	m	6000		
5.2	Remove and replace defective/displaced expansion board or compressible joint filler	m	6000		
5.3	Grind and prepare joint substrates; remove oil, algae, biofilm and loose material	m	2000		

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Item No.	Description	Unit	Quantity	Rate (R)	Amount (R)
5.4	Provide and install closed-cell backing rod or bond-breaker tape where required	m	800		
5.5	Prime where required and install accepted elastomeric sealant system to prepared dam joints	m	6000		
5.6	Replace compromised waterstops or joint tapes where required	m	650		
6. GOURIKWA – FUEL-TANK BUND JOINT REPAIRS: TANKS C, D, A AND B					
6.1	Remove defective existing bund-joint sealant/backing and prepare joint faces	m	3000		
6.2	Provide and install closed-cell backing rod or bond-breaker tape compatible with fuel-oil exposure	m	3000		
6.3	Prime where required and install accepted fuel-resistant elastomeric sealant system to bund floor and wall joints	m	3000		
6.4	Replace compromised waterstops or joint tapes in fuel-tank bunds where required	m	1000		
7. GOURIKWA – TANK-TO-FOUNDATION INTERFACE SEALING: TANKS C, D, A AND B					
7.1	Inspect and remove existing annular sealant, debris and contaminants at tank-to-foundation interfaces	m	189.1		
7.2	Mechanically/solvent clean steel and concrete substrates at tank-to-foundation interfaces	m	189.1		
7.3	Provide bond breaker or backing material where required	m	189.1		
7.4	Install accepted fuel-resistant elastomeric sealant and finish to a water-shedding profile	m	189.1		
8. GOURIKWA – UNDERGROUND STORMWATER DRAINAGE					

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Item No.	Description	Unit	Quantity	Rate (R)	Amount (R)
8.1	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		
8.2	Pre-cleaning inspection report, route records, photographs and video deliverables	Item	1		
8.3	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		
8.4	Post-cleaning inspection of cleaned drainage sections	m	5000		
8.5	Post-cleaning inspection report, route records, photographs and video deliverables	Item	1		
9. GOURIKWA – HAZARDOUS-WASTE SKIP CONTAINMENT AREA					
9.1	Clear and grub the containment footprint	m ²	27.09		
9.2	Strip and remove topsoil to 150 mm depth	m ³	4.0635		
9.3	Excavate in earth to approximately 200 mm below NGL, subject to Employer drawing and verified Site levels	m ³	5.418		
9.4	Rip and recompact 150 mm of the founding layer	m ²	27.09		
9.5	Supply, place and compact G7 filling to at least 95% Mod AASHTO	m ³	4.0635		

Item No.	Description	Unit	Quantity	Rate (R)	Amount (R)
9.6	Compaction testing of the prepared founding layer, including test reports demonstrating compliance with 95% Mod AASHTO.	No	2		
9.7	Additional excavation and removal of unsuitable founding material where required	m ³	Rate only		
9.8	Additional G7 replacement material for unsuitable founding material where required	m ³	Rate only		
9.9	50 mm 10 MPa blinding concrete beneath slab where required	m ²	27.09		
9.10	30 MPa reinforced concrete in 200 mm containment slab	m ³	5.418		
9.11	Ref 617 reinforcement mesh to top and bottom layers of slab	m ²	54.18		
9.12	Finish slab to the required 1:100 falls toward the low-point sump	m ²	27.09		
9.13	Construct low-point sump and interfaces in accordance with the Employer drawing	Item	1		
9.14	140 mm brick masonry bund wall	m ²	8.112		
9.15	Brick reinforcement to masonry bund wall	m	81.12		
9.16	Steel dowels/wall ties fixed to reinforced-concrete slab	No	51		
9.17	15–20 mm cement-sand plaster to internal bund-wall surfaces	m ²	12.6504		
9.18	Prepare internal slab and wall surfaces for chemical-resistant coating system	m ²	33		

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Item No.	Description	Unit	Quantity	Rate (R)	Amount (R)
9.19	Provide and apply accepted chemical-resistant epoxy coating system to internal slab and wall surfaces, minimum total DFT 500 microns, including primers and all coats required by the accepted system	m²	33		
9.20	Concrete cube-strength testing and records for containment slab	Item	1		
9.21	Coating DFT measurement, calibration evidence and compliance records	Item	1		
9.22	Minimum 24-hour water-retention test and test record after coating cure	Item	1		
GOURIKWA SUBTOTAL					R
10. RATE-ONLY ENVIRONMENTAL / WASTE ITEMS					
10.1	Off-Site transport and lawful disposal of hazardous or hydrocarbon-contaminated solid waste arising at Gourikwa where required by the Works Information and not otherwise included in a measured item	t	Rate only		
TOTAL OF THE PRICES (EXCLUDING VAT)					