

## PART 2: PRICING DATA

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## C2.1 Pricing assumptions: Option A

### 1. The conditions of contract

#### 1.1. How work is priced and assessed for payment

Clause 11 in NEC3 Engineering and Construction Contract, April 2013 (ECC3) Option A states:

<b>Identified and defined terms</b>	11 11.2	(20) The Activity Schedule is the <i>activity schedule</i> unless later changed in accordance with this contract.
		(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.
		(27) The Price for Work Done to Date is the total of the Prices for <ul style="list-style-type: none"> <li>• each group of completed activities and</li> <li>• each completed activity which is not in a group.</li> </ul> A completed activity is one which is without Defects which would either delay or be covered by immediately following work.
		(30) The Prices are the lump sum prices for each of the activities on the Activity Schedule unless later changed in accordance with this contract.

Option A is a lump sum form of contract where the work is broken down into activities, each of which is priced by the tendering contractor as a lump sum. Only completed activities are assessed for payment at each assessment date; no part payment is made if the activity is not completed by the assessment date.

#### 1.2. Function of the Activity Schedule

Clause 54.1 in Option A states: "Information in the Activity Schedule 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 Activity Schedule 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 Activity Schedule. The Activity Schedule is only a pricing document.

#### 1.3. Link to the programme

Clause 31.4 states that "The Contractor provides information which shows how each activity on the Activity Schedule relates to the operations on each programme which he submits for acceptance". Hence when compiling the *activity schedule*, the tendering contractor needs to show each activity on the programme he submits with his tender.

#### 1.4. Preparing the activity schedule

The tendering contractor prepares the *activity schedule* and should study the ECC3 Guidance Notes pages 19 and 20 before doing so. The Employer may have instructed the tendering contractor to include particular activities which he has specified and requires the Contractor to identify them in his *activity schedule*.

- 1 Generally it is the Contractor who prepares the Activity Schedule as part of his tender by breaking down the work described within the Works Information into suitable activities which can be well defined, priced as a lump sum and shown on the programme. The Employer, in his Conditions of Tender or in a Tender Schedule, may have listed some items that he requires the Contractor to include in his activity schedule and be priced accordingly.
- 2 The Prices are defined in clause 11.2(20) as the lump sum for each activity in the activity schedule and the Price for Work Done to Date (PWDD) (the amount due to the contractor) is defined in clause 11.2(24) as the total of the Prices for each activity that has been completed. Hence activities in the activity schedule should be structured so as to provide an acceptable monthly cash flow as they are only assessed for payment on the assessment date if they have been completed.
- 3 As the Contractor has an obligation to correct Defects (core clause 43.1) and there is no compensation event for this unless the Defect was due to an Employer's risk, the lump sum Prices must also include for the correction of Defects.
- 4 If the Contractor has decided not to identify a particular activity, the cost to the *Contractor* of doing the work must be included in, or spread across, the other Prices in order to fulfil the obligation to complete the works for the tendered total of the Prices.
- 5 There is no adjustment to the lump sum activity schedule price if the amount, or quantity, of work within that activity later turns out to be different to that which the contractor estimated at time of tender. The only basis for a change to the Prices is as a result of a compensation event. See Clause 60.1.
- 6 Hence the Prices tendered by the Contractor in the *activity schedule* are inclusive of everything necessary and incidental to Providing the Works in accordance with the Works Information, as it was at the time of tender, as well as correct any Defects not caused by an Employer's risk.
- 7 However, the Contractor does not have to allow in his Prices for matters that may arise as a result of a compensation event. It should be noted that the list of compensation events includes those arising as a result of an Employer's risk event listed in core clause 80.1.

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An activity schedule could have the following format:

Item No.	Programme Reference	Activity description	Price

## C2.2 the *activity schedule*

Option A (refer to Works Information C3 for more details)

All amounts entered in the *activity schedule* are to be exclusive of VAT.

### Part 1 – Preliminaries and General

Preliminaries and general provides summary-level cost headings only. The *Contractor* is required to prepare and price a more detailed *Activity Schedule* which expands these headings and reflects all preliminary obligations stated throughout the *Works Information*, not merely those listed in this table. Accordingly, the *Contractor* is to break down and include activities covering mobilisation and site establishment, project controls and document management (including the DMS/MDR), routine meetings, health and safety compliance (plan, Safety File, toolbox talks, audits), environmental management (EMP, WMP, spill/VOC controls and on-site kits), security and access control, site establishment and temporary works, surveys and setting out, and any other statutory, operational, and governance requirements specified in the *Works Information*. Under Option A, the *Activity Schedule* forms the basis of lump-sum pricing and assessment of the *Price for Work Done to Date*; therefore, activities must be sufficiently detailed to enable accurate pricing, programme integration and unambiguous certification on completion of each activity. The *Contractor* may and should submit an *Activity Schedule* that is more detailed than the summary included in this contract, to ensure all obligations—especially those described in the *Works Information* but not itemised in the Pricing Data—are properly included and priced.

#### All amounts to entered exclusive of VAT

A. Preliminaries and General		
Item	Description	Item Sub-Total
A.1	Mobilisation, site establishment, inductions & permit-to-work onboarding (RAMS framework)	R
A.2	Project controls: Baseline programme (MS Project), MDR <sup>1</sup> setup, DMS <sup>2</sup> configuration & routing protocols	R
A.3	Kick-off/weekly meetings (risk/commercial/progress) & minutes circulation per Works Information	R
A.4	H&S Plan acceptance, Safety File establishment, toolbox-talk regimen & audit readiness	R
A.5	Environmental Plan (EMP) acceptance, WMP <sup>3</sup> approval, spill and emission controls & kit deployment	R
<b>Preliminaries and General: Sub-Total A</b>		<b>R</b>

### Part 2 – Technical Studies

The pricing table below for technical studies includes only a summary listing of the technical investigation and design-support activities required for the project. The *Contractor* is required to expand these activities within its activity schedule to cover the full extent of obligations set out in the *Works Information*, including the execution, coordination, reporting, and statutory or operational acceptance of all technical studies. Pricing for this part must therefore allow for all activities associated with geotechnical and topographical investigations; assessment and certification of previously procured spares; multi-disciplinary HAZOPs, QRA updates, AIA/functional safety engagements; and the preparation, submission, and coordination of detailed design deliverables across mechanical, civil, and EC&I disciplines. These activities must also cover all required site access arrangements, permit-to-work constraints, interface with the facility operator, data collection, modelling, risk reviews, specialist inputs, and iterative responses to comments issued by the *Project Manager* or *Employer*. As the technical studies underpin the engineering stages and subsequent permanent works, the *Contractor* must ensure that all related obligations described throughout the *Works*

<sup>1</sup> Master Document Register

<sup>2</sup> Document Management System

<sup>3</sup> Waste Management Plan

*Information*—including design integration, coordination meetings, data validation, and documentation management—are comprehensively priced and broken down in sufficient detail within the activity schedule to enable accurate valuation under Option A.

**All amounts to entered exclusive of VAT**

<b>B. Technical Studies</b>		
<b>Item</b>	<b>Description</b>	<b>Item Sub-Total</b>
B.1	Geotechnical/topographical surveys; groundwater and bearing capacity validation (Tank Farm 1)	R
B.2	Review/assessment of previously procured spares; test/certify for reuse; spares assessment report	R
B.3	Multi-disciplinary HAZOPs, QRA <sup>4</sup> updates, AIA/functional safety engagements (PER/IEC 61511)	R
B.4	Detailed design submissions (for acceptance) – mechanical/civil/EC&I packages & response integration	R
<b>Technical Studies: Sub-Total B</b>		<b>R</b>

**Part 3 – Design and Engineering**

The pricing tables below for the discipline-specific design and engineering packages provides only a summary of the design activities for mechanical, civil and structural, and electrical, controls and instrumentation disciplines. The *Contractor* is required to expand these activities within its activity schedule to fully reflect the design responsibilities, coordination requirements, reviews, submissions, acceptances, interfaces and statutory compliance obligations described throughout the *Works Information*. Pricing must therefore allow for all stages of design development, including preliminary and detailed design, multi-disciplinary integration, response to comments, design change management, interface control documentation, submission formatting and routing, and alignment with the design acceptance procedures in clause 21. The *Contractor* must ensure that each design discipline’s activities are broken down with sufficient detail to support accurate pricing and assessment for the *Price for Work Done to Date* under Option A.

**Mechanical Design and Engineering Work Packages**

Pricing must include all mechanical design obligations for tanks, jet fuel pipelines, manifolds, pumps, filtration systems, sampling and flushing systems, firewater and foam systems, diesel dispensing systems, contaminated water unloading systems, boundary isolation valves, compressed air systems and potable water distribution. This includes full engineering, design calculations, P&IDs, arrangement drawings, integration with previously procured spares, API/EI/NFPA/SANS compliance, HAZOP response incorporation, inter-discipline coordination, FAT/SAT data incorporation, overfill and surge protection integration, all temporary works design required to enable the permanent works, and all cross-discipline interfaces specified in the *Works Information*. Mechanical design activities must be expanded to capture all technical performance requirements, testing criteria and documentation obligations described in Section 3.2.1 of the *Works Information*.

**All amounts to entered exclusive of VAT**

<b>C.1. Mechanical Engineering<sup>5</sup></b>		
<b>Item</b>	<b>Description</b>	<b>Item Sub-Total</b>
C.1.1	Bulk Storage Tanks (Tank Farm 1 – Tanks 1–7)	R
C.1.2	Jet Fuel Lines & Inlet Filter Stations (Natref/Rail/Multiproduct)	R
C.1.3	Apron Pump Bay; Suction & Discharge Manifolds	R
C.1.4	Truck Loading & Meter Proving Bays	R
C.1.5	Sampling, Flushing & Stripping Systems	R

<sup>4</sup> Quantitative Risk Assessment

<sup>5</sup> Detailed design: bases/interfaces, P&IDs, layouts, materials, ITPs; HAZOP/functional safety where applicable; URS compliance matrix

<b>C.1. Mechanical Engineering<sup>5</sup></b>		
<b>Item</b>	<b>Description</b>	<b>Item Sub-Total</b>
C.1.6	Firewater & Foam Systems	R
C.1.7	Diesel Storage & Dispensing System (Bund A6)	R
C.1.8	Contaminated Water Unloading Facility	R
C.1.9	Boundary Receipt Battery Limit Isolation Valve (SIL-3)	R
C.1.10	Compressed Air Generation & Distribution	R
C.1.11	Potable Water Distribution & Metering	R
C.1.12	Rail Decanting Facility Upgrade	R
<b>Sub-Total C.1: Mechanical Engineering and Design</b>		<b>R</b>

### Civil and Structural Design and Engineering Work Packages

Pricing must cover all civil and structural design requirements for tank bases and bunds, roads, hardstands, stormwater and API separation systems, a new waterborne sanitation system, structural refurbishments, bridges, walkways, roofs and all temporary works design required to enable the permanent works. The *Contractor* must include geotechnical inputs, drainage modelling, foundation and pavement designs, bund capacity calculations, segregation of clean/dirty stormwater, compliance with SANS/municipal by-laws, temporary works design per clause 21.1, structural detailing, access and constructability reviews and the coordination obligations set out in Section 3.2.2 of the *Works Information* and the stormwater-related annexures. These items must be expanded in the activity schedule to reflect the full detail of design deliverables required across all civil and structural elements.

### All amounts to entered exclusive of VAT

<b>C.2. Civil and Structural Engineering<sup>6</sup></b>		
<b>Item</b>	<b>Description</b>	<b>Item Sub-Total</b>
C.2.1	Tank Bases & Bunds (impermeable lining; 110% capacity)	R
C.2.2	Roads/Hardstands; Plinths; Parking & Canopies	R
C.2.3	Stormwater Network & API Separators; Outfalls/Attenuation	R
C.2.4	Segregation of Stormwater vs API Systems	R
C.2.5	Waterborne Sanitation (replace septic tank); municipal tie-ins/package plant	R
C.2.6	Various Structural Works (bridges, walkways, roofs, waterproofing, finishes)	R
<b>Sub-Total C.2: Civil and Structural Engineering and Design</b>		<b>R</b>

### Electrical, Controls and Instrumentation Design and Engineering Work Packages

Pricing must include all EC&I design responsibilities associated with power distribution, MCC upgrades, SCADA/DCS/ESDS integration, cybersecurity requirements, lighting, instrumentation, UPS<sup>7</sup> studies, actuator relocations, EC&I upgrades for filter stations, bund level detection, and the full digitalisation/4IR-readiness obligations described in the *Works Information*. This covers detailed design basis documentation, I/O schedules, logic diagrams, cause-and-effect, power and network studies, hazardous area compliance,

<sup>6</sup> Geotech, hydraulic & structural calcs; layouts, details & temporary works; interfaces & access; OHS/constructability reviews

<sup>7</sup> Uninterruptible Power Supply

interface control documentation, and integration with facility operational systems. The *Contractor* must price the considerable coordination, design reviews, failover testing logic, cybersecurity compliance (IEC 62443) and digital twin/monitoring integration required under Section 3.2.3 of the *Works Information*.

#### All amounts to entered exclusive of VAT

<b>C.3. Electrical, Controls and Instrumentation Engineering<sup>8</sup></b>		
<b>Item</b>	<b>Description</b>	<b>Item Sub-Total</b>
C.3.1	Power Distribution & MCC Upgrades	R
C.3.2	SCADA/DCS; ESDS/BPCS; Cybersecurity (IEC 62443)	R
C.3.3	Instrumentation (flow/pressure/temperature/level); loop design	R
C.3.4	Site Lighting & Hazardous Area Compliance	R
<b>Sub-Total C.3: Electrical, Controls and Instrumentation Engineering and Design</b>		<b>R</b>

#### Summary of Pricing for Design and Engineering

The Design and Engineering summary table below provides only a high-level roll-up of the mechanical, civil/structural, and EC&I design scopes; the *Contractor* is required to expand these items in its activity schedule to reflect the full design obligations described in the *Works Information*.

#### All amounts to entered exclusive of VAT

<b>C. Design and Engineering</b>	
Sub-Total C.1: Mechanical Engineering and Design	R
Sub-Total C.2: Civil and Structural Engineering and Design	R
Sub-Total C.3: Electrical, Controls and Instrumentation Engineering and Design	R
<b>Design and Engineering: Sub-Total C</b>	<b>R</b>

<sup>8</sup> Architecture, SLDs, I/O lists, loop diagrams, cause & effect; UPS/communications; earthing & lightning protection

**Part 4 – Procurement and Manufacturing**

This section lists only summary-level procurement and fabrication activities for mechanical, civil/structural and EC&I work packages. The *Contractor* is required to expand these items in its activity schedule to reflect all procurement, expediting, manufacturing, inspection, logistics, documentation and integration obligations described throughout the *Works Information*, including coordination with vendors, management of previously procured spares, compliance with standards, and all associated quality assurance and traceability requirements.

**Mechanical Procurement and Manufacturing**

Pricing must include all procurement, fabrication, inspection and logistics activities for bulk storage tanks, pipelines, manifolds, pumps, filtration systems, sampling and flushing systems, firewater and foam systems, diesel dispensing systems, contaminated water unloading systems, boundary isolation valves, compressed air equipment and potable water systems. This includes vendor data management, factory acceptance tests, material traceability, coating and fabrication quality controls, integration of previously procured spares and compliance with API, EI, NFPA and SANS standards as required in the *Works Information*.

**All amounts to entered exclusive of VAT**

<b>D.1. Mechanical Procurement and Manufacturing<sup>9</sup></b>		
<b>Item</b>	<b>Description</b>	<b>Item Sub-Total</b>
D.1.1	Bulk Storage Tanks (Tank Farm 1 – Tanks 1–7)	R
D.1.2	Jet Fuel Lines & Inlet Filter Stations (Natref/Rail/Multiproduct)	R
D.1.3	Apron Pump Bay; Suction & Discharge Manifolds	R
D.1.4	Truck Loading & Meter Proving Bays	R
D.1.5	Sampling, Flushing & Stripping Systems	R
D.1.6	Firewater & Foam Systems	R
D.1.7	Diesel Storage & Dispensing System (Bund A6)	R
D.1.8	Contaminated Water Unloading Facility	R
D.1.9	Boundary Receipt Battery Limit Isolation Valve (SIL-3)	R
D.1.10	Compressed Air Generation & Distribution	R
D.1.11	Potable Water Distribution & Metering	R
D.1.12	Rail Decanting Facility Upgrade	R
<b>Sub-Total D.1: Mechanical Procurement and Manufacturing</b>		<b>R</b>

<sup>9</sup> Issue RFQs, evaluate, place POs; vendor datasheets; QA plans; FATs; logistics plans

**Civil and Structural Procurement and Manufacturing**

Pricing must include procurement and fabrication associated with tank bases, bunds, hardstands, roads, structural steelwork, stormwater and API separation systems, waterborne sanitation infrastructure and all temporary civil works. This includes sourcing of materials, geotechnical-related procurement, precast and structural components, linings, coatings, reinforcement, formwork elements, and compliance with SANS and municipal requirements described in the *Works Information*.

**All amounts to entered exclusive of VAT**

<b>D.2. Civil and Structural Procurement and Manufacturing<sup>10</sup></b>		
<b>Item</b>	<b>Description</b>	<b>Item Sub-Total</b>
D.2.1	Tank Bases & Bunds (impermeable lining; 110% capacity)	R
D.2.2	Roads/Hardstands; Plinths; Parking & Canopies	R
D.2.3	Stormwater Network & API Separators; Outfalls/Attenuation	R
D.2.4	Segregation of Stormwater vs API Systems	R
D.2.5	Waterborne Sanitation (replace septic tank); municipal tie-ins/package plant	R
D.2.6	Various Structural Works (bridges, walkways, roofs, waterproofing, finishes)	R
<b>Sub-Total D.2: Civil and Structural Procurement and Manufacturing</b>		<b>R</b>

**Electrical, Controls and Instrumentation Procurement and Manufacturing**

Pricing must allow for procurement and fabrication of EC&I equipment including power distribution components, MCC equipment, SCADA/DCS/ESDS hardware, cybersecurity-compliant systems, lighting equipment, instruments, UPS components, actuators, cabling, panels and associated supports. This includes vendor-specific design packs, FAT/SAT requirements, hazardous-area compliant equipment, panel build, testing, software licensing and all specification, traceability and integration requirements identified in the *Works Information*.

**All amounts to entered exclusive of VAT**

<b>D.3. Electrical, Controls and Instrumentation Procurement and Manufacturing<sup>11</sup></b>		
<b>Item</b>	<b>Description</b>	<b>Item Sub-Total</b>
D.3.1	Power Distribution & MCC Upgrades	R
D.3.2	SCADA/DCS; ESDS/BPCS; Cybersecurity (IEC 62443)	R
D.3.3	Instrumentation (flow/pressure/temperature/level); loop design	R
D.3.4	Site Lighting & Hazardous Area Compliance	R
<b>Sub-Total D.3: Electrical, Controls and Instrumentation Procurement and Manufacturing</b>		<b>R</b>

**Summary of Pricing for Procurement and Manufacturing**

The Procurement and Manufacturing summary table below provides a high-level roll-up of the mechanical, civil/structural and EC&I procurement and fabrication scopes; the *Contractor* is required to expand these items in its activity schedule to reflect the full procurement, expediting, manufacturing, inspection, logistics and quality-assurance obligations described in the *Works Information*.

<sup>10</sup> Materials procurement (concrete, liners, steel); shop drawings; method statements

<sup>11</sup> Panels/MCCs/instruments/cables procurement; panel build & FAT; software licences

**All amounts to entered exclusive of VAT**

<b>D. Procurement and Manufacturing</b>	
Sub-Total D.1: Mechanical Procurement and Manufacturing	R
Sub-Total D.2: Civil and Structural Procurement and Manufacturing	R
Sub-Total D.3: Electrical, Controls and Instrumentation Procurement and Manufacturing	R
<b>Procurement and Manufacturing: Sub-Total D</b>	<b>R</b>

**Part 5 – Construction**

This section provides only summary-level descriptions of the construction works for mechanical, civil/structural and EC&I disciplines. The *Contractor* is required to expand these items in its activity schedule to reflect the full construction, installation, testing, integration, temporary works, permit-to-work, interface, operational-continuity, permanent works and quality-assurance obligations described throughout the *Works Information*.

**Mechanical Construction Works**

Pricing must include the de-construction and removal of current storage tanks 1-7, construction, installation and integration of new bulk storage tanks 1-7, jet fuel pipelines, manifolds, pumps, filtration systems, sampling and flushing systems, firewater and foam systems, diesel dispensing systems, contaminated water unloading systems, boundary isolation valves, compressed air systems and potable water distribution. This includes enabling works, fabrication, welding, NDT, coatings, hydrostatic testing, mechanical completion, temporary tie-ins, staged isolations, and coordination with live aviation-fuel operations, all in accordance with the *Works Information*.

**All amounts to entered exclusive of VAT**

<b>E.1. Mechanical Construction<sup>12</sup></b>		
<b>Item</b>	<b>Description</b>	<b>Item Sub-Total</b>
E.1.1	Bulk Storage Tanks (Tank Farm 1 – Tanks 1–7)	R
E.1.2	Jet Fuel Lines & Inlet Filter Stations (Natref/Rail/Multiproduct)	R
E.1.3	Apron Pump Bay; Suction & Discharge Manifolds	R
E.1.4	Truck Loading & Meter Proving Bays	R
E.1.5	Sampling, Flushing & Stripping Systems	R
E.1.6	Firewater & Foam Systems	R
E.1.7	Diesel Storage & Dispensing System (Bund A6)	R
E.1.8	Contaminated Water Unloading Facility	R
E.1.9	Boundary Receipt Battery Limit Isolation Valve (SIL-3)	R
E.1.10	Compressed Air Generation & Distribution	R
E.1.11	Potable Water Distribution & Metering	R
E.1.12	Rail Decanting Facility Upgrade	R
<b>Sub-Total E.1: Mechanical Construction Works</b>		<b>R</b>

<sup>12</sup> Install/erect; fit-up; pressure/hydro tests; coatings; mechanical completion

**Civil and Structural Construction Works**

Pricing must cover all civil and structural construction activities including tank bases and bunds, roads and hardstands, stormwater and API separation systems, waterborne sanitation, structural refurbishments, bridges, walkways, roofs and waterproofing. This includes excavation, dewatering, formwork, reinforcement, concrete works, pavements, drainage, linings, structural steelwork, temporary works, and compliance with SANS and municipal requirements as detailed in the *Works Information*.

**All amounts to entered exclusive of VAT**

<b>E.2. Civil and Structural Construction<sup>13</sup></b>		
<b>Item</b>	<b>Description</b>	<b>Item Sub-Total</b>
E.2.1	Tank Bases & Bunds (impermeable lining; 110% capacity)	R
E.2.2	Roads/Hardstands; Plinths; Parking & Canopies	R
E.2.3	Stormwater Network & API Separators; Outfalls/Attenuation	R
E.2.4	Segregation of Stormwater vs API Systems	R
E.2.5	Waterborne Sanitation (replace septic tank); municipal tie-ins/package plant	R
E.2.6	Various Structural Works (bridges, walkways, roofs, waterproofing, finishes)	R
<b>Sub-Total E.2: Civil and Structural Construction</b>		<b>R</b>

**Electrical, Controls and Instrumentation Works**

Pricing must include installation, termination, testing and commissioning of EC&I systems including power distribution and MCC upgrades, SCADA/DCS/ESDS integration, hazardous-area equipment, panels, cabling, lighting, instrumentation, UPS systems, actuators and EC&I infrastructure for filter stations and bund level detection. This includes adherence to hazardous-area requirements, failover testing, functional checks, loop testing, network integration and all other obligations defined in the *Works Information*.

**All amounts to entered exclusive of VAT**

<b>E.3. Electrical, Controls and Instrumentation Works<sup>14</sup></b>		
<b>Item</b>	<b>Description</b>	<b>Item Sub-Total</b>
E.3.1	Power Distribution & MCC Upgrades	R
E.3.2	SCADA/DCS; ESDS/BPCS; Cybersecurity (IEC 62443)	R
E.3.3	Instrumentation (flow/pressure/temperature/level); loop design	R
E.3.4	Site Lighting & Hazardous Area Compliance	R
<b>Sub-Total E.3: Electrical, Controls and Instrumentation Works</b>		<b>R</b>

**Summary of Pricing for Construction Works**

The Construction summary table below provides a high-level roll-up of the mechanical, civil/structural and EC&I temporary and permanent construction works; the *Contractor* is required to expand these items in its activity schedule to reflect the full construction, installation, testing, temporary works, integration and operational-continuity obligations described in the *Works Information*.

<sup>13</sup> Earthworks; foundations; concrete/steel works; linings; drainage & separators

<sup>14</sup> Cable containment & pulls; terminations; panel install; software load

**All amounts to entered exclusive of VAT**

<b>E. Construction</b>	
Sub-Total E.1: Mechanical Construction	R
Sub-Total E.2: Civil and Structural Construction	R
Sub-Total E.3: Electrical, Controls and Instrumentation Works	R
<b>Construction Works: Sub-Total E</b>	<b>R</b>

**Part 6 – Commissioning and Operational Readiness**

Commissioning and Operational Readiness provides a summary of the system-wide mechanical, electrical, controls and instrumentation commissioning activities. The *Contractor* is required to expand these items in its activity schedule to reflect the full commissioning, integration, testing, verification, performance assessment and handover obligations described in the *Works Information*.

**All amounts to entered exclusive of VAT**

<b>F. Commissioning and Operational Readiness</b>		
<b>Item</b>	<b>Description</b>	<b>Item Sub-Total</b>
F.1	Mechanical: System-wide <sup>15</sup>	R
F.2	Electrical, Controls and Instrumentation: System-wide <sup>16</sup>	R
F.3	Mechanical: Firewater & Foam <sup>17</sup>	R
F.4	Mechanical: Fuel Quality <sup>18</sup>	R
F.5	All systems: Integrated Performance <sup>19</sup>	R
<b>Commissioning and Operational Readiness: Sub-Total F</b>		<b>R</b>

**Part 7 – Project Management**

Project Management summarises the project-wide management, quality, health and safety, environmental and document-control activities required under the contract. The *Contractor* is required to expand these items in its activity schedule to reflect the full project-management, reporting, assurance, governance and coordination obligations described in the *Works Information*.

**All amounts to entered exclusive of VAT**

<b>G. Project Management</b>		
<b>Item</b>	<b>Description</b>	<b>Item Sub-Total</b>
G.1	Project Management: All phases <sup>20</sup>	R
G.2	Quality Control and Assurance <sup>21</sup>	R
G.3	Healthy, Safety and Environmental Management <sup>22</sup>	R

<sup>15</sup> Mechanical commissioning (tanks/pipes/pumps): hydrostatic, pressure, vibration & thermal tests

<sup>16</sup> EC&I commissioning: loop checks, ESDS/BPCS failover ( $\leq 2$  s), UPS runtime, network redundancy

<sup>17</sup> Firewater/foam systems commissioning; application rates, dosing, ring-main hydraulics

<sup>18</sup> Jet-A1 soak testing & lab certification (receipt/dispatch quality) per EI/JIG

<sup>19</sup> Integrated performance tests vs Annexure D targets; rectify/re-test if needed

<sup>20</sup> Progress/cost/risk reporting; KPI reporting; early warnings & risk reduction meetings

<sup>21</sup> Quality Plan, ITPs, NCR management; vendor surveillance; audits

<sup>22</sup> H&S and Environmental management per plans; PTW; training; inspections

<b>G. Project Management</b>		
<b>Item</b>	<b>Description</b>	<b>Item Sub-Total</b>
G.4	Document Management and Control <sup>23</sup>	R
<b>Project Management: Sub-Total G</b>		<b>R</b>

**Part 8 – Project Close-out**

Project Close-out summarises the documentation, handover and operational-readiness activities required to formally complete the works. The *Contractor* is required to expand these items in its activity schedule to reflect the full close-out, as-built, training, operational-handover and archival obligations described in the *Works Information*.

**All amounts to entered exclusive of VAT**

<b>H. Project Close-out</b>		
<b>Item</b>	<b>Description</b>	<b>Item Sub-Total</b>
H.1	Documentation <sup>24</sup>	R
H.2	Handover <sup>25</sup>	R
H.3	Operations <sup>26</sup>	R
<b>Project Close-out: Sub-Total H</b>		<b>R</b>

<sup>23</sup> DMS/MDR upkeep; numbering; transmittals; archival

<sup>24</sup> As-built drawings (DWG+PDF), asset tags & registers, Asset Information Management Office/CMMS uploads, QA dossiers

<sup>25</sup> Final Safety File, environmental close-out (disposal certificates), demobilisation & reinstatement

<sup>26</sup> Training programme delivery, manuals/SOPs/videos; competency sign-off & logs; Technology Transfer Package

**Activity Schedule Summary**

Below is the summary of all sub-totals of each sub-section of the activity schedule.

<b>Final Project Cost – Refurbishment of Tank Farm</b>		
<b>Item</b>	<b>Description</b>	<b>Item Sub-Total</b>
	Preliminaries and General: Sub-Total A	R
	Technical Studies: Sub-Total B	R
	Design and Engineering: Sub-Total C	R
	Procurement and Manufacturing: Sub-Total D	R
	Construction Works: Sub-Total E	R
	Commissioning and Operational Readiness: Sub-Total F	R
	Project Management: Sub-Total G	R
	Project Close-out: Sub-Total H	R
	Project Contingency (10% of the sum of Sub-Totals A to H): Sub-Total I	R
	<b>Grand Total</b>	<b>R</b>