



MeerKAT Extension Infrastructure Tender Evaluation

Tender No : NRF SARAO SKA1-001-2020
Revision : E
Date : 27-Feb-20

TENDERES ARE REMINDED OF THE FOLLOWING FACTORS WHEN COMPLETING THIS SCHEDULE

- A The purpose of this schedule is to provide a method of comparing Tender Pricing
- B The quantities in the schedule is indicative of what the bidder should expect, but it does not constitute final measured quantities. The Contractor needs to determine their bid price from the reference designs, SOW, drawings provided and other tender information. It remains the Contractors responsibility to prepare final quantities in order for them to determine their tender price.
- C The Lump Sum Contract Value at the bottom of this schedule is the Tender Value that will be used as the Contract value for the Contract with the successful bidder
- D The Pricing for the Design portion of this tender is split into:
- D.1 The MeerKAT Extension design which includes the full design requirement for the Power and Fibre sub-elements, but for the Acces and Foundations sub-elements the design is limited to 24 foundation positions and ancillary works to these positions (roads, stormwater drainage and platforms). This portion of design works shall be included in the tender contract and shall form part of the construction of the MeerKAT Extension phase.
- D.2 Additional Pricing Requirements for this tender is the design for the remaining 109 foundations and all ancillarie works. (roads, stormwater drainage and platforms) which shall include some additional geotechnical testing requirements and the full design scope for the elements discussed. This protion of the design might be included in this contract depending on cost and budget, but will not be included in the construction portion of this contract.

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Item No.	Program Reference	Activity Description	Quantity	Unit	Price
		All quantities provided in this Pricing schedule is for reference purposes only. It is the contractors responsibility to ensure that the quantities that they use in determining their pricing and in providing their Lump Sum Contract amount is correct and has been verified considering the applicable scopes of work and specifications as well as all the applicable reference drawings supplied for each sub-section and item. The Lump Sum price should include all labour, plant and materials, documentation, testing and verification regimes etc. required, to approve and accept the end product.			
A	DESIGN PHASE MeerKAT Extension (Power and Fibre Full scope, Access and Foundations - MeerKAT Extension scope only)				
1		Review and Analysis of the SKAO Requirements and Reference designs - produce a design review report	1	Lump Sum	
2		Preliminary Design for Access, Power & Fibre and 24 Foundations - produce a preliminary design and Preliminary Design report	1	Lump Sum	
3		Detail Design for the <u>Visserskloof 69/3 Construction Camp</u> and associated services - Produce design and all applicable drawings and documentation, ready for construction	1	Lump Sum	
4		Detail Design for Access, Power & Fibre and 24 Foundations - produce detail design with all applicable drawings and documentation, ready for construction and a Detail Design Report	1	Lump Sum	
		Total value for the MeerKAT Extension Design Phase			
B	DESIGN PHASE SKA1_MID (Roads and foundation full scope) - This is a design requirement in addition to Option A - Based on this bid value, the design work might be included in the MeerKAT Extension budget and SOW.				
1		Review and Analysis of the SKAO Requirements and Reference designs - produce a design review report	1	Lump Sum	
2		Preliminary Design for Access and 133 Foundations - produce a preliminary design and Preliminary Design report	1	Lump Sum	
3		Detail Design for Access and 133 Foundations - produce detail design with all applicable drawings and documentation, ready for construction and a Detail Design Report	1	Lump Sum	
		Total value for the SKA1_MID additional Design Phase			
Do NOT add this Lump Sum Value to Lump Sum Contract Value					

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C		CONSTRUCTION PHASE			
1		SITE ESTABLISHMENT			
		The Contractor shall include as a minimum the following in the Lump Sum Price for site establishment:			
1.1		COLTO Section 1300: All Fixed, Value and Time related obligations (based on the contractors programme).	1	Lump Sum	
1.2		COLTO Section 1400: Offices and Laboratories - Allow for 4 offices for the Project Manager and Supervisors at the Visserskloof 69/3 farmhouse and the establishment and running of a materials testing laboratory for the duration of the contract to ensure that all required quality control and any additional required testing can be performed. This will include all requirements for a fully staffed and functional laboratory. No housing requirement for the clients staff required.	1	Lump Sum	
1.3		COLTO Section 1500: The Contractor shall allow for all required traffic accommodation for the duration of the contract.	1	Lump Sum	
		Total value for the MeerKAT Extension - Site Establishment			
2		CONSTRUCTION CAMP			
2.1		The price for the construction camp platform shall include all the required clearing and grubbing, roadbed prep (rip and re-compact), imported gravel wearing course layer, placing and compaction of this layer as well as the final shaping and trimming of the layer. It shall further include all the required materials tests and compaction tests to prove that the layer complies with the specifications to make this a fully functional platform as described in the SOW and specifications for a platform (basic gravel road).	1	Lump Sum	
2.2		Build the Construction camp (from design A3) with all bulk services and service connection points, associated Water Treatment Plants, associated Waste Water Treatment Plants and including offices for the Project Manager and Project supervision staff as well as a meeting room according to the SOW.	1	Lump Sum	
2.3		Installation of Power and Fibre services taken from Bulk service to site	1	Lump Sum	
		Total value for the MeerKAT Extension - Construction Camp			
3		FOUNDATIONS - COLTO Series 6000: Structures			
		The foundation price shall include all excavations, required compaction, blinding, shuttering, reinforcing, bolt group installation, earthing cable duct and fibre conduit installation(from outside of the platform), concrete and finishes, backfilling and all required compaction tests, materials tests, materials compliancy certificates, concrete tests, pile tests etc. required to make this a fully functional foundation as described in the specifications and SOW.			
3.1		Design Solution 1: 7m Diameter Pile cap on 8 x 750mm diameter vertical piles with Nominal length of 10m	24	Number	
3.2		Design Solution 2: 7m Diameter Pile cap on 8 x 900mm diameter raking piles with nominal length of 12,5m	0	Rate Only	
3.3		Design Solution 3: 11m diameter reinforced foundation on top of a mass concrete infill to the medium hard rock layer. Assume total depth of concrete infill as 1,5m	0	Rate Only	
		Total value for the MeerKAT Extension Foundations			
4		PLATFORMS - COLTO Series 3000: Earthworks and Pavement layers of Gravel or Crushed Stone + COLTO Series 1000: General			

Item No.	Program Reference	Activity Description	Quantity	Unit	Price
		The price for the gravel platform shall include all the required clearing and grubbing, roadbed prep (rip and re-compact), imported gravel wearing course layer (including transport), placing and compaction of this layer as well as the final shaping and trimming of the layer once the foundation has been completed. It shall further include all the required materials tests and compaction tests to prove that the layer complies with the specifications to make this a fully functional platform as described in the SOW and specifications for a platform (basic gravel road). It further includes all haul roads for access from the borrow pits to the platform positions, if required.			
4.1		Gravel Platform	24	Number	
		Total value for the MeerKAT Extension - Platforms			
5		ACCESS ROADS - COLTO Series 3000: Earthworks and Pavement layers of Gravel or Crushed Stone + COLTO Series 1000: General + COLTO Series 2000: Drainage			
		The price for the basic gravel roads shall include all the required clearing and grubbing, roadbed prep (rip and re-compact), imported gravel wearing course layer (including transport), placing and compaction of this layer as well as the final shaping and trimming of the layer once the construction traffic on this road (including traffic required to complete the foundation) is removed. It shall include all required drainage solutions such as berms and cut-off drains to protect the road from storm water. It shall further include all the required materials tests and compaction tests to prove that the layer complies with the specifications to make this a fully functional basic gravel road as described in the SOW and specifications for a basic gravel road. It further includes all required haul roads for the access element from the borrow pits to the roads, if required.			
5.1		Basic Gravel road	36	km	
5.2		Concrete drift (small)	20	Number	
5.3		Concrete drift (medium) <500mm deep	30	Number	
5.4		Concrete drift (large) >500mm deep	30	Number	
		Total value for the MeerKAT Extension - Access Roads			
6		POWER AND FIBRE (Civil works) - SANS 1200 DB - Earthworks Pipe trenches; SANS 1200 LB - Bedding (pipes); SANS 1200 LC - Cable Ducts			
		The contractor shall ensure that all work priced and material / equipment delivered is based on the relevant SOW and specifications for each subsection and item priced.			
6.1		Excavate in all materials for trenches, backfill, compact and dispose of surplus material in a depth range of 0,5 to 1,0 m. The width of the trench is 600mm. The excavation shall include making sure that the trench bottom is clean and firm without large protruding rocks or stones. Soft area shall be compacted prior to the placement of bedding and large rocks or stones shall be removed.	70000	m	
6.2		Bedding and blanket for electrical cable incl. warning tape	66152	m	
6.3		Bedding and Blanket for Fibre ducting incl. warning tape	68252	m	
		Total value for the MeerKAT Extension - Power & Fibre (Civil Works)			
7		POWER (See L3 requirements - as per SOW document)			
7.1		185mm ² x 4C LV Cable	3700	m	
7.2		50mm ² x 3C CuXLPE (22kV) Cable	43850	m	

Item No.	Program Reference	Activity Description	Quantity	Unit	Price
7.3		16mm ² x 3C Cu XLPE (1.9/3.3kV) Armadac Cable	8200	m	
7.4		Dish Service Cable	1500	m	
7.5		BCEW for above	1500	m	
7.6		Distribution Kiosk	8	No.	
7.7		RC Filter	3	No.	
7.8		Minisubs	13	No.	
7.9		Pad mount Transformers	6	No.	
		Total value for the MeerKAT Extension - Power			
8		FIBRE (SaDT Technical Requirements as per SOW document)			
8.1		MICRO DUCTING			
8.1.1		12 Way	1000	m	
		7 Way	63000	m	
8.1.2		4 Way	3000	m	
8.1.3		2 Way	13000	m	
8.2		Fibre Cable			
8.2.1		144 Fibre Micro Cable	84000	m	
8.2.2		12 Fibre Micro Cable	16000	m	
8.2.3		48 Fibre Micro Cable	4000	m	
8.3		1000mm Splicing Handhole	58	Number	
8.4		600mm Slack Handhole incl. marker	29	Number	
8.5		Splicing enclosure - 144 Fibre	45	Number	
8.6		Concrete marker	683	Number	
8.7		Patch Leads	840	Number	
8.8		Splicing	3588	Number	
8.9		Testing		Sum	
8.10		ODF in ODF room	1	Number	
8.11		ODF in KAPB Equipment room	1	Number	
8.12		Fibre Termination Unit - 12 fibre	24	Number	
		Total value for the MeerKAT Extension - Fibre			
9		SPECIALISTS Consultants			
9.1		Palaeontologist		Sum	
9.2		Archaeologist		Sum	
9.3		Other		Sum	
		Total value for the MeerKAT Extension - Specialists			
10		CONSTRUCTION DATA			
10.1		All As-Built Data for the entire SOW		Sum	
10.2		All Warranties for material and equipment used		Sum	
10.3		Final Verification Testing and documentation		Sum	
		Total value for the MeerKAT Extension - Construction Data			
		LUMP SUM CONTRACT VALUE (excl. VAT)			R -
		VAT @ 15%			R -
		LUMP SUM CONTRACT VALUE (incl. VAT)			R -