



SARAO
South African Radio
Astronomy Observatory

BID DESCRIPTION

MAINTENANCE OF RECEIVERS AND RECEIVER SUPPORT EQUIPMENT FOR THE OPERATION OF THE MEERKAT INSTRUMENT FOR A PERIOD OF THREE YEARS

Bidder Name:	
Bidder's Email Address:	
Bid Number:	NRF/SARAO SMRK/16/2022-23
Compulsory Briefing Session:	Date: Tuesday, 28 June 2022 Time: 10.00AM Venue: Karoo Support Base, Klerefontein Farm, Carnarvon, 8925 GPS Coordinates: 30 58' 26.03"S 21 59' 37.88"E
Closing Date: Closing Time:	Friday, 22 July 2022 11.00AM Note: Submissions received after 11.00AM will be NOT be accepted
Bid Submissions:	Electronic submissions must be sent to tenders@sarao.ac.za Bids must be submitted in two separate electronic folders, one with the compliance and technical response, and the second with the financial response. Folders must be titled with the bidder's company name and folder title. Attachments are limited to 25 MB per email. Bidders may use WeTransfer, Dropbox, Google Drive or similar file sharing applications to submit their bid submissions.
Enquiries may be directed in writing to:	
Procedural Enquiries:	Technical Enquiries:
Anwuli Okecha	Ben Jordaan
anwuli@sarao.ac.za	bjordaan@sarao.ac.za

TABLE OF CONTENTS

INTRODUCTION.....	3
INTRODUCTION TO THE NRF	3
BACKGROUND TO SARAO	3
CONTEXT OF THIS PROCUREMENT NEED	3
PART A – THE TENDER.....	7
DETAILED SPECIFICATION.....	7
1. Statement of requirements.....	7
1.1 Operations support.....	7
MeerKAT receiver list of parts and material required	15
1.3 Delivery Schedule	16
1.4 Maintenance and Support Skills Requirements.....	16
THE BID SELECTION PROCESS.....	18
STAGE 1 – SUBMISSION OF RETURNABLE DOCUMENTS AND SCHEDULES	19
STAGE 2 - TECHNICAL EVALUATION	20
STAGE 3 – PRICE AND B-BBEE POINTS SCORING.....	25
PART A.1 – BID PREPARATION	26
BIDDING INSTRUCTIONS.....	26
PART B – THE CONTRACT	30
SPECIAL CONDITIONS OF CONTRACT	30
GENERAL CONDITIONS OF CONTRACT (GCC)	41
PART B.1 – PRICING.....	47
PRICING INSTRUCTIONS.....	47
PRICING SCHEDULE – NON-FIRM PRICES	49
SBD 3.2 – PRICING SCHEDULE.....	52
Equipment and data pack prices.....	52
MeerKAT receiver list of parts and material required	53
PART C – RETURNABLE SCHEDULES	55
SBD 1 – INVITATION TO BID	55
SUPPLIER INFORMATION	55
BID SUBMISSION.....	57
TAX COMPLIANCE REQUIREMENTS.....	57
SBD 4 – BIDDER’S DISCLOSURE	58
SBD 6.1 – PREFERENCE POINTS CLAIM FORM.....	61
Reference Letter Format.....	65
SBD 1 – BID SIGNATURE	67

INTRODUCTION

INTRODUCTION TO THE NRF

The National Research Foundation Act, Act 23 of 1998, incorporates the National Research Foundation (“NRF”) as the juristic legal entity that will contract with the awarded bidder. Please visit the NRF website (<https://www.nrf.ac.za>) for more information.

BACKGROUND TO SARAO

The South African Radio Astronomy Observatory (SARAO) is the National Research Foundation’s National Facility incorporating South Africa’s radio astronomy instruments and programmes such as the MeerKAT and KAT-7 telescopes in the Karoo in the Northern Cape, the Hartebeesthoek Radio Astronomy Observatory (HartRAO) in Gauteng, the African Very Long Baseline Interferometry (AVN) programme in nine African countries as well as the associated human capital development and commercialisation endeavours. More information about SARAO is available from www.ska.ac.za. More information about the international Square Kilometre Array (SKA) project is available from www.skatelescope.org.

CONTEXT OF THIS PROCUREMENT NEED

The MeerKAT Project

The MeerKAT instrument was built with 64 separate elements consisting of 128 cryogenically cooled receivers (one L and one U-band receiver per system) with the corresponding helium and vacuum support equipment. The system was further expanded by adding a further 64 S-band receivers bringing the total active receiver systems to 192 units with a further 15 units as spares or under repair.



Figure 1: The MeerKAT radio telescope array.

Operational requirements

The operational requirements for the individual units are quite high because of it being an array system. SARAO has been responsible for managing the system upkeep. These units run continuously and are only switched off during very short planned maintenance periods when as much as possible, failure modes are addressed both as corrective or predictive maintenance (determined by condition monitoring). This planned maintenance downtime adds up to only 2.5% of available run time per unit, per year. As each unit cannot be used separately but only as part of an array, the total receivers available cannot drop below 58 out of 64 per band. At any point below 58, the array becomes very limited in use as a science instrument, as the receiver system is only a sub system of a much larger and complex system. The receiver system component accumulative availability cannot fall below 92% availability before causing a very negative cascading effect on the instrument.

Cryogenic cooled systems tend to be very sensitive equipment with many factors determining operational condition. Maintaining system temperatures as low as -250°C at 5 billionth of atmosphere is no simple thing. Almost all parts of the system are interlinked / interdependent and require very specialized skills over a broad range of disciplines. These units have been custom designed, taking into account as many of these factors as possible, however since this is a first of its kind and size, there is still much to learn and improve.

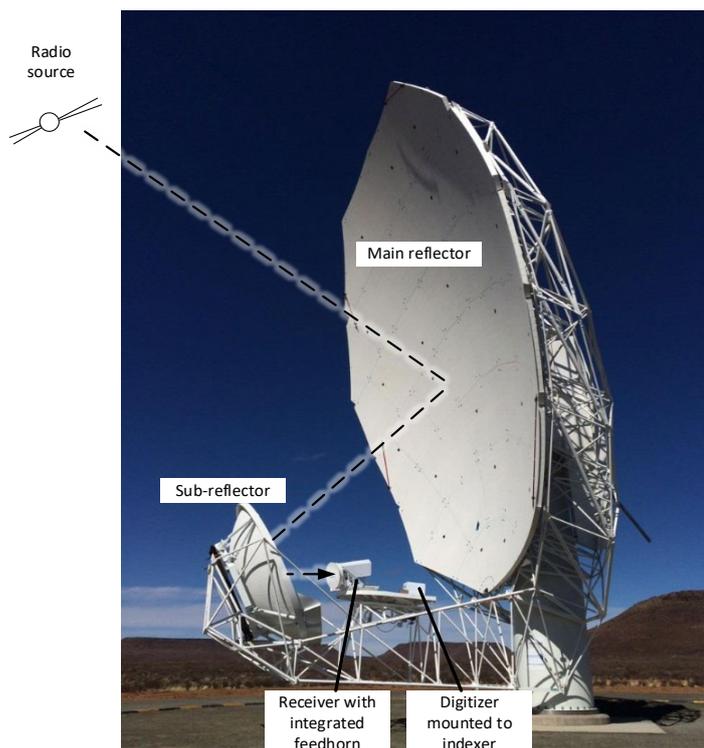


Figure 2: Diagram of a single MeerKAT dish.

Operational support requirements

The MeerKAT system as described above shows a broad view of the entire instrument. This procurement is aimed at supporting the front-end of the system. This part consists of the cryogenically cooled receivers in their respective

operating bands (UHF, L and S bands). These are tied together by their control systems as well as the Helium and Vacuum systems that are displayed in the system block diagram for the receiver subsystem (Refer to the applicable documents).

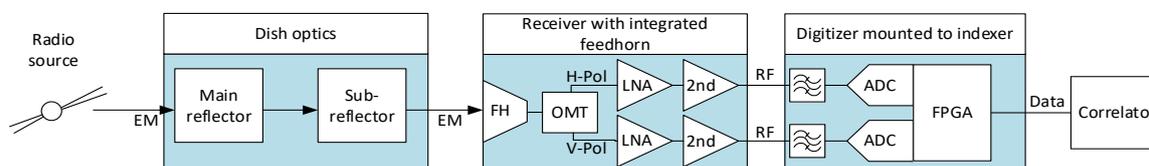


Figure 3. The simplified block diagram of a radio telescope single antenna element.

Following the acceptance and successful commissioning phase of the receiver system in June 2018, the system started its operational phase. It is in this phase that the demand for a consistent support increased in order to sustain the MeerKAT Radio Telescope science objectives on continuous basis. First in this phase, was to establish a supplier support contract that initialised a comprehensive maintenance regime for the system which included maintenance on all levels and at varying depths. The first two-year support contract was coupled with a contract for the supplier to establish a maintenance facility at Klerefontein so that SARAO can independently support the receiver system, up to LRU including some SRU parts going forward. The facility was successfully delivered and is known as the intermediate level maintenance “ILM” receiver facility.

At the end of the initial support contract, the SARAO receiver maintenance team was empowered and capacitated to reliably sustain the system on planned and corrective maintenance basis with only complex and specialised tasks being outsourced to the supplier. This was made possible because a knowledge transfer component that included a foreign visit to OEM (‘Original Equipment Manufacturer’) companies was built into that support contract. This helped reduce dependency on the supplier and assisted in establishing direct lines to OEM companies abroad. As a result, some OEM level maintenance is able to be carried out at the ILM facility.

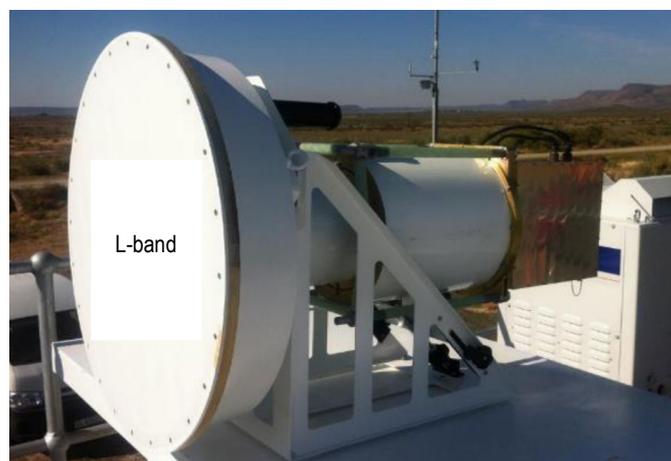


Figure 4: The receiver with feedhorn attached.

During the process of maintenance of the receivers on the MeerKAT array, experience has been gained that is specific to this unique project. As the maintainers on the ground, looking at massive amounts of system data every day, we have improved and, in some cases, exceeded original supplier skill at diagnosing and repairing the systems. Significant skill has already been gained but in-house developed processes need to be verified by the OEM technical teams in order to prevent possible risks.

We have identified areas that could significantly improve our in-house capabilities, increasing our independence from outside assistance. As with the previous support contract, we have identified areas of maintenance that are feasible for SARAO to develop tooling and skills to better maintain the MeerKAT array.

This procurement seeks to acquire services in terms of time and material support for the coming three years ending 2025. The engineering and technical support time requirements are outlined below in the specifications. Similarly, the materials and parts procurement requirements are defined below as well.

Applicable Documents

- (a) **Annexure A** – System Block Diagram Receiver Subsystem, EA-MKS-DIAG-01_1, Rev 1;
- (b) **Annexure B** – Receiver Block Diagram, EA-MKS-DIAG-02_1, Rev 1

PART A – THE TENDER

DETAILED SPECIFICATION

1. Statement of requirements

1.1 Operations support

MeerKAT Receiver - Operational support in the form of parts and material

<p>Description</p>	<p>As a custom-built instrument consisting of many different parts, the part and material supply is difficult as most are international single source suppliers or highly specialized with low available quantities at very long lead times. SARAO requires a supplier that is familiar with this type of supply issues and has in depth knowledge of the relevant fields of expertise in order to have a reliable and consistent supply. This is critical to maintain the operational requirement of Meerkat.</p> <p>Helium Compressor Module replacement: The goal is to develop an in-house capacity to maintain the helium compressors down to the component level in order to significantly extend the service life and reduce the cost of purchasing new units.</p>
<p>Inputs</p>	<ul style="list-style-type: none"> • Specialized custom parts and material. Refer to Table 3.2 on page 15. • Detailed procedures, software updates and specialized tooling in order to improve and expand current site and Intermediate Level Maintenance (ILM) facility capabilities
<p>Activities</p>	<p>Extension of the current Line Replaceable Units (LRU) spare pool to include spare SRU (Shop Replaceable Unit) unit that is not assembled into LRU's already in order to improve Meerkat maintainability:</p> <ul style="list-style-type: none"> • Refer to the attached items list Table 3.2 for a full list of the parts required. <p style="text-align: center;">Helium Compressor Module replacement:</p> <p>Supplier to interface between SARAO and manufacturer on the following points:</p> <ul style="list-style-type: none"> • Discuss and agree with the supplier on the separation point internal to the compressor to allow component replacement. • Setup supply chain between the manufacturer and SARAO to enable procurement of internal compressor parts and order the first batch with all steps logged through RAMLOG. • Develop repair/service procedures and define required tooling using inhouse HVAC

skilled personnel from SARAO infrastructure department.

- Once the repair/service procedure has been developed, then required tooling to be supplied.
- Arrange the training defined by the repair/service procedures for SARAO staff working in the Receiver maintenance team (5 people) at a recognized training facility. The cost of training falls under this Contract. The cost of transport, accommodation and living expenses of SARAO personnel falls under SARAO.

Configure a Meerkat AP (Antenna Positioner) Integration Receiver (EA-MKL-3000 version Q) as a Cryogenic testing and verification unit:

That can interface to the current Maintenance equipment already installed in the Intermediate Level Maintenance (ILM) facility. The required functionality:

- To test and verify cryogenic kits consisting of the drive assembly and displacer within the Oxford Cryosystems Coldstar 2/9 coldhead.
- This will extend the fault-finding capability down to the component level of the Oxford Cryosystems Coldstar 2/9 coldhead.

Oxford Cryosystems 2/9-Coldstar displacer characterisation unit prototype:

Supply specialized equipment and manufacturing for the in-house developed displacer characterisation unit prototype. This will allow for the creation of a “Hot” spare pool that will reduce mean-time-to-repair (MTR). The production version of the characterisation unit:

- The current procedure and equipment needs to be characterized and improved by combining knowledge from field experience and that of the manufacturer.
- The displacer characterisation unit prototype to be documented
- The documented characterization unit to be reviewed by the original equipment manufacturer (OEM).
- Facilitate the manufacturing of the final displacer characterisation unit for use in the ILM.
- Generate the final build documents.

	<p style="text-align: center;">Update of Meerkat software and maintenance GUI to accommodate better interface to the new S-Band systems:</p> <ul style="list-style-type: none"> • Update both Advance and Operator level of site maintenance GUI to improve interface to S-Band receivers. • Update Lab RSC software to accommodate S-Band receiver for control and monitoring during maintenance. • Transfer of working knowledge to SARAO Receiver engineering team.
Deliverables	<p style="text-align: center;">Extension of the LRU spare pool:</p> <ul style="list-style-type: none"> • Equipment should be delivered to the original specification to the Support Base Store (SBS-Klerfontein). • The decision between supplying the internal components or complete SRU to be decided by the Maintenance Manager as determined by operation requirements. • Equipment and parts to be allocated part numbers and delivered as a RAMLOG acquired templated. • RAMLOG delivery note serves as proof of delivery. • Where applicable, SARAO specific supplier information and part numbers to be added or updated in RAMLOG to enable future direct procurement by SARAO. <p style="text-align: center;">Helium Compressor Module replacement:</p> <ul style="list-style-type: none"> • The procedures are delivered with relevant documentation signed by the Maintenance Manager. • All relevant updates made to the SARAO internal document system(eB) and RAMLOG. • All relevant tooling to be supplied. • Certified training to be supplied to the Receiver team. • Scheduling of training as it suits the availability of the SARAO staff <p style="text-align: center;">Configure a Meerkat AP (Antenna Positioner) Integration Receiver:</p> <ul style="list-style-type: none"> • The procedures are delivered with relevant documentation signed by the Maintenance Manager. • All relevant updates made to the SARAO internal document system(eB) and

	<p>RAMLOG.</p> <ul style="list-style-type: none"> The Meerkat AP (Antenna Positioner) Integration Receiver is delivered as part of the “Extension of the LRU spare pool” requirement. <p>Oxford Cryosystems 2/9-Coldstar displacer characterisation unit prototype:</p> <ul style="list-style-type: none"> Functional displacer characterisation unit. The procedures are delivered with relevant documentation signed by the Receiver Lead Technician. Build documents including input from OEM to be supplied. All relevant updates made to the SARAO internal document system(eB) and RAMLOG. <p>Update of MeerKAT software:</p> <ul style="list-style-type: none"> S-band functionality to be integrated into new revision of both Advance and Operator level of site maintenance GUIs. New revision of Lab RSC software to accommodate S-Band receiver for control and monitoring during maintenance. New revision of the software to be signed off by Receiver Lead Technician. Transfer of working knowledge to SARAO Receiver engineering team.
Schedule	From the date of the agreement for three years as per an agreed schedule.
Approval	Telescope maintenance manager.

1.2 Repair and parts supply for existing equipment

Description	<p>Factory repair of failed SRU's:</p> <p>The SRUs that cannot be repaired at ILM and DLM but have failed during operational use need to be sent to the manufacturer for repair. These parts were custom built for Meerkat and need very specific repair to return them to original factory specifications. None of the SRUs are off-the-shelf (OTS) parts.</p> <p>Maintenance of some of the SRU units can be done in-house providing that we have the correct procedures and service kits. These kits need to be adapted to the specific needs of SARAO to prevent wastage of resources.</p>
--------------------	---

	<p style="text-align: center;">Supply chain procedures for specialized spares:</p> <p>Helium compressor adsorbers: The adsorbers are manufactured in the USA and purchased from an authorized local reseller. They are considered consumables. The used part needs to be correctly disposed of as it carries an environmental risk. An option for refurbishment at close-to-new supply cost is available but with significant supply chain management challenges as the supplier is located in the USA.</p> <p style="text-align: center;">Mid-cycle vacuum pump service kit:</p> <p>The manufacturer specifies the full-service kit to be used at vacuum pump failure. To meet operational requirements, the MeerKAT vacuum pumps are serviced at a pre-defined degradation level. Full failure of a vacuum pump presents an unacceptable risk to operations. A mid-cycle vacuum pump service kit is a special-order item from the vacuum pump manufacturer. The mid-cycle vacuum kit consists exclusively of the wearing parts to reduce the cost compared to the unneeded full vacuum pump service kit.</p>															
Inputs	<ul style="list-style-type: none"> • Provision for repair of major SRU's of the Meerkat Receiver System. This is based on the projected worst-case failure rate derived from tracking the failure rate over the previous 4-year operational cycle. • Negotiation of SARAO specific part numbers with the manufacturer/supplier to enable SARAO to procure directly from the manufacturer/supplier on the conclusion of this contract. Refer to Table 3.1. 															
Activities	<p style="text-align: center;">Factory repair of failed SRU's:</p> <p>SRU's forecast to be repaired upon failure during the duration of the contract:</p> <p><i>Table 3.1: Forecast of quantities of SRU for repair.</i></p> <table border="1" data-bbox="411 1547 1385 2047"> <thead> <tr> <th>Quantity</th> <th>Part number</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">3</td> <td>EA-MK-110</td> <td>Receiver System Controller (RSC)</td> </tr> <tr> <td style="text-align: center;">1</td> <td>EA-MKL-3112</td> <td>L-Band Second stage Radio Frequency Equipment (RFE)</td> </tr> <tr> <td style="text-align: center;">1</td> <td>EA-MKU-3112</td> <td>UHF Second stage Radio Frequency Equipment (RFE)</td> </tr> <tr> <td style="text-align: center;">3</td> <td>Pfeifer 210SDTHKM</td> <td>Vacuum Pump Assembles</td> </tr> </tbody> </table>	Quantity	Part number	Description	3	EA-MK-110	Receiver System Controller (RSC)	1	EA-MKL-3112	L-Band Second stage Radio Frequency Equipment (RFE)	1	EA-MKU-3112	UHF Second stage Radio Frequency Equipment (RFE)	3	Pfeifer 210SDTHKM	Vacuum Pump Assembles
Quantity	Part number	Description														
3	EA-MK-110	Receiver System Controller (RSC)														
1	EA-MKL-3112	L-Band Second stage Radio Frequency Equipment (RFE)														
1	EA-MKU-3112	UHF Second stage Radio Frequency Equipment (RFE)														
3	Pfeifer 210SDTHKM	Vacuum Pump Assembles														

	4	EA-MK-223	Vacuum Pump Starter
	1	91-00018-008 M500-RT	Helium Compressor Assembles
	3	EA-MK-560	Helium Compressor Controller
	<p style="text-align: center;">Supply chain procedures for specialized spares:</p> <ul style="list-style-type: none"> • Helium compressor adsorbers: SARAO requires a once-off return of the existing used adsorbers to the manufacturer for refurbishment. Any credit to be returned in the form of usable adsorbers. This addressed the environmental risk acceptably and limits operational wastage. • Mid-cycle vacuum pump service kit: Negotiation with manufacturer to determine kit definition. Allocation of a SARAO specific part number for the kit with a definition for the service kit. 		
Deliverables	<p style="text-align: center;">Factory repair of failed SRU's:</p> <p>Repair of major SRU's of the Meerkat Receiver System:</p> <ul style="list-style-type: none"> • Repair or replacement at discretion of the Telescope Maintenance Manager • Repaired units delivered to originals specification • Repair tracked and logged in RAMLOG • Priority of repair determined by operational requirements <p style="text-align: center;">Supply chain procedures for specialized spares:</p> <ul style="list-style-type: none"> • The current backlog of used adsorbers to be cleared. • Mid-cycle vacuum pump service kit received and the procurement process implemented. Manufacturer and SARAO part numbers available for use in RAMLOG. 		
Schedule	From the date of the agreement for three years as per an agreed schedule.		
Approval	Telescope maintenance manager.		

1.3 Time and Engineering/Technical Support

Description	For the fault finding and repair of some SRU and LRU units we do have the facilities and equipment needed as provided during a previous Support contract but in some cases, we need specialized skills. The facility allows us to do this work in-house with support instead as with previous repair where the units were sent away for repair but SARAO did not partake in the repair preventing us from learning/absorbing the skills needed. In some cases, like software updates and maintenance, it is much more cost effective both in time and money to have this done by the supplier.
Inputs	<ul style="list-style-type: none"> • In-facility engineering and technical support at the Carnarvon Intermediate Level Maintenance (ILM) facility • Operational Level Maintenance (OLM) Support • Depot Level Maintenance (DLM) Support • Supplier Level Maintenance (SLM) Support
Activities	<p style="text-align: center;">Time in ILM:</p> <ul style="list-style-type: none"> • For advance fault-finding and rebuilding of Line Replaceable Units (LRU). • 12 trips, 2 people per trip. • Where possible SARAO transport and accommodation will be used. <p style="text-align: center;">OLM Support:</p> <ul style="list-style-type: none"> • Live system (installed and operational) fault finding using existing in-house tools and processes with remote access. • Operational updates and incremental improvements to the receiver systems in terms of software/firmware. This includes software tooling upkeep.
Deliverables	<ul style="list-style-type: none"> • Calibration of RF tent equipment and verification of complete test setup. • Technical Support 1800 hours. • Engineering Support 1000 hours. • Allocation of work hours on a task-by-task basis pre-approved by Telescope Maintenance manager. • All hours booked and tracked under RAMLOG work orders.
Schedule	From the date of the agreement for three years as per an agreed schedule.

Approval

Telescope maintenance manager.

MeerKAT receiver list of parts and material required

Table 3.2: List of units to add to MeerKAT spare pool

Quantity	Description	Part Number
15	2/9 Coldstar cryocooler displacer	22GM-910B301A
240	Component kits for Coldstart service	Meerkat Specific Parts SKA1 to SKA23
3	Receiver System Controller (RSC)	EA-MK-110
1	Helium Compressor Assembly	91-00018-008 M500-RT
8	Helium Compressor Module	Determined by Supplier as per Task
3	Compressor Controller	EA-MK-560
140	Helium Compressor Absorber	80-00005-005
2	Vacuum pump assembly	Pfeifer 210SDTHKM
140	Vacuum pump mid-service kit	Determined by Supplier as per Task
70	Vacuum pump Major Service kit	Pfeifer 103911
4	Vacuum Pump Starter (VPS)	EA-MK-223
4	Scroll pump service kits	Agilent IDP-7
4	Diaphragm pump service kits	Pfeifer MVP 070-3
20	RF Feedthrough for receiver output	EA-MKL-3531
10	Pressure Sensor Assembly	EA-MKL-3519
2	RCMU and PSU Assembly	EA-MKL-3300
3	L-Band 2nd Stage RFE Assembly	EA-MKL-3112
3	UHF-Band 2nd Stage RFE Assembly	EA-MKU-3112
6	2/9 Coldstar coldhead	911B005A
8	LNA, L-Band, HIA	EA-MKL-3101
8	LNA, UHF-Band, HIA	EA-MKU-3101
1	Meerkat AP Integration Receiver	EA-MKL-3000 version Q

1.3 Delivery Schedule

Ad-hoc over a four-year period. To be determined by the telescope maintenance manager based on operational needs.

1.4 Maintenance and Support Skills Requirements

1.4.1 Personnel Skills Review

The bidder must submit CV's of its Project Team in the following disciplines:

- **Project Management**

Submit CV of the Project Manager that will be appointed on the project, showing at least 5 years' experience in managing projects of equivalent complexity, with the combined integration of the following disciplines - Cryogenic cooling; High purity gas distribution; Vacuum systems; High sensitivity radio frequency receivers; Command control and monitoring, all in an EMI sensitive environment.

- **Quality Management (Assurance)**

CV of quality manager that will be appointed on the project, showing at least 5 years' experience in managing the quality of units.

- **Key Engineering Staff**

Key engineering staff must include the following team members -

- Electro magnetic engineer;
- Software engineer;
- Mechanical engineer; and
- Electronic technicians

- **Project Team Organogram**

Project organogram including key technical staff. CVs of key technical staff to be submitted.

1.4.2 Quality Management Systems Review

The bidder (and compressor sub-contractor, if applicable) must have a quality management system at least at the ISO 9001 level or equivalent that can assure each produced item meets its specification every time.

The bidder must provide evidence of their established quality management systems.

- Documented quality management system, showing sufficient quality management rigour to manage the industrialisation process (ISO 9001 or equivalent).
- A certificate or similar of such a quality management system.

1.4.3 Compliance with deliverables certificate/proposal

The submitted proposal should include an overview of the extent of capability (skills, tools & processes) and previous products developed that have similar requirements. Also, should include a statement of intent to comply with these specifications.

Compliance with deliverables stated in the statements of work (in the form of a proposal).

1.4.4 Technical Experience

Bidders (and compressor sub-contractor, if applicable) must provide proof of their experience in developing, testing and maintaining low Radio Frequency Interference (RFI) systems -

- Documentation showing evidence of 5 years or more experience in developing, testing and maintenance of systems with low Radio Frequency Interference (RFI) levels, able to meet the specified SARAO RFI requirements, or equivalent.

Bidders must provide proof of their experience in developing, testing and maintaining Helium based cryogenic systems that operate over extended periods -

- Documentation showing evidence of developing, testing and industrialising helium systems for cryogenic equipment with temperatures below 30K maintained in operational conditions over extended periods of time (operating for more than 1 year in the field).

1.4.5 Tools/facilities

Bidders must provide evidence of their maintenance capabilities, suitable for fault-finding and repair of the products as applicable -

- Documentation showing the extent of the available capabilities and demonstrating that they have been used for maintenance in the past.

The bidder provides evidence of their facilities to test RFI:

- Documentation showing the extent of available test equipment and facilities and their suitability to perform the necessary RFI acceptance testing of the products.

SARAO reserves the right to inspect the facilities to verify suitability.

THE BID SELECTION PROCESS

STAGE 1 - SUBMISSION OF RETURNABLE DOCUMENTS AND SCHEDULES

Bids will be evaluated for compliance with the procedural requirements of this bid, which entails the completion and/or submission of the returnable documents and schedules specified in the Stage 1 – Submission of Returnable Documents and Schedules (page 19) Checklist below.

NOTE: Failure to comply with the mandatory requirements in this stage may result in bid disqualification. However, SARA0 may apply the discretion to allow bidders to complete and/or sign returnable schedules not completed and/or signed in the first instance or to submit returnable documents not submitted in the first instance. Such returnable schedules or documents must be of a purely administrative nature, and may not pertain to the substance of the bid such as to affect the competitive position of bidders, by giving one or more bidders a second and unfair opportunity to augment the quality (substantive) aspects of their bid.

STAGE 2 - TECHNICAL EVALUATION

Bids will be evaluated against the technical criteria outlined **Stage 2 - Technical Evaluation** (page 20) below.

Bids which fail to meet the requirements of Stage 2 will be disqualified and not evaluated further in Stage 3.

STAGE 3 - PRICE AND PREFERENCE POINTS SCORING

Bid price proposals are compared on an equal and fair basis, taking into account all aspects of the bid pricing requirements. Qualifying bids are ranked on price and preference points claimed in the following manner -

- (i) **Price** – points are allocated for price in accordance with the formula detailed in the Preference Claim Form (SBD 6.1);
- (ii) **B-BBEE** - points are allocated for B-BBEE as claimed in the SBD 6.1 Form, validated by a valid B-BBEE certificate, or sworn affidavit in the case of EMEs and QSEs.

See section below, Stage 3 – Price and B-BBEE Points Scoring on page 25.

STAGE 1 – SUBMISSION OF RETURNABLE DOCUMENTS AND SCHEDULES

NOTE: All mandatory criteria need to be complied with to move on to the next stage of evaluation. All SBD forms indicated as mandatory must be completed and signed by bidders. However, SARAO may apply the discretion to allow bidders to complete and/or sign returnable schedules not completed and/or signed in the first instance or to submit returnable documents not submitted in the first instance. Such returnable schedules or documents must be of a purely administrative nature, and may not pertain to the substance of the bid such as to affect the competitive position of bidders by giving one or more bidders a second and unfair opportunity to augment the quality (substantive) aspects of their bid.

Each member of a joint venture, or consortium must submit the SBD 1; 4; and 6.1 returnable forms.

Returnable Documents	Compliance			
	Mandatory / Optional	Submit -ted	Bid Section Reference	Reference to Bidder's document
Bidder Eligibility				
Bid Invitation (SBD 1), signed and completed	Mandatory	<input type="checkbox"/> Yes <input type="checkbox"/> No	Page 55 SBD 1 – Invitation to Bid	
Pricing (SBD 3.2) in this document completed with schedules breaking each line down into individual cost structures	Mandatory	<input type="checkbox"/> Yes <input type="checkbox"/> No	Page 49 SBD 3.2 – Pricing Schedule	
Bidder's Disclosure (SBD 4), signed and completed	Mandatory	<input type="checkbox"/> Yes <input type="checkbox"/> No	Page 58 SBD 4 – Bidder's Disclosure	
Preference Points Claim Form (SBD 6.1), signed and completed	Mandatory	<input type="checkbox"/> Yes <input type="checkbox"/> No	Page 61 SBD 6.1 – Preference Points Claim Form	
B-BBEE certificate, or in the case EMEs or QSEs, a Sworn Affidavit confirming annual turnover and level of black ownership	Optional	<input type="checkbox"/> Yes <input type="checkbox"/> No	Page 61 SBD 6.1 – Preference Points Claim Form	
Bid Signature (SBD 1), signed and completed	Mandatory	<input type="checkbox"/> Yes <input type="checkbox"/> No	Page 67 SBD 1 – Bid Signature	

STAGE 2 - TECHNICAL EVALUATION

NOTE: Failure to submit evidence in support of each evaluation criteria will result in disqualification. No second opportunity will be given to submit documentation not included in the bid, except in the case where there is no competition (i.e. one bid is received) and therefore no prejudice will be suffered by any other bidder. Compliance with each evaluation criterion below is **mandatory**.

No	Evaluation Criteria (All criteria are weighted equally to each other)	Meet Specification Minimum	Bid Section Reference	Assessment methodology
Specification Eligibility				
1	<p>Project Manager</p> <p>CV of Project Manager showing at least 5 years' experience in managing projects with equivalent complexity, with the combined integration of the following disciplines: Cryogenic cooling, High purity gas distribution, Vacuum systems, High sensitivity radio frequency receivers, command control and monitoring, all in an EMI sensitive environment.</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No	Page 16 Personnel Skills Review	Go / No-Go
2	<p>Key Engineering Staff</p>			
2.1	<p>Electro Magnetic Engineer (Radio Frequency)</p> <p>CV of Electro Magnetic Engineer that will be appointed on the project, showing at least 5 years' experience, with the combined integration of the following disciplines: Cryogenic cooling, High purity gas distribution, Vacuum systems, High sensitivity radio frequency receivers, command control and monitoring, all in an EMI sensitive environment.</p>	<input type="checkbox"/> YES <input type="checkbox"/> NO	3.5.1 Personnel Skills Review	Go / No-Go
2.2	<p>Software Engineer</p> <p>CV of Software Engineer that will be appointed on the project, showing at least 5 years' experience in projects with equivalent complexity, with the combined integration of the following disciplines: Cryogenic cooling, High purity gas distribution, Vacuum systems, High sensitivity radio</p>	<input type="checkbox"/> YES <input type="checkbox"/> NO	3.5.1 Personnel Skills Review	Go / No-Go

No	Evaluation Criteria (All criteria are weighted equally to each other)	Meet Specification Minimum	Bid Section Reference	Assessment methodology
	frequency receivers, command control and monitoring, all in an EMI sensitive environment.			
2.3	<p>Mechanical Engineer</p> <p>CV of Mechanical Engineer that will be appointed on the project, showing at least 5 years' experience in projects with equivalent complexity, with the combined integration of the following disciplines: Cryogenic cooling, High purity gas distribution, Vacuum systems, High sensitivity radio frequency receivers, command control and monitoring, all in an EMI sensitive environment.</p>	<input type="checkbox"/> YES <input type="checkbox"/> NO	3.5.1 Personnel Skills Review	Go / No-Go
3	<p>Quality Manager (Assurance)</p> <p>CV of Quality Assurance Manager that will be appointed on the project, showing at least 5 years' experience in projects with equivalent complexity, with the combined integration of the following disciplines: Cryogenic cooling, High purity gas distribution, Vacuum systems, High sensitivity radio frequency receivers, command control and monitoring, all in an EMI sensitive environment.</p>	<input type="checkbox"/> YES <input type="checkbox"/> NO	3.5.1 Personnel Skills Review	Go / No-Go
4	<p>Project Team Organogram</p> <p>Project organogram including key technical staff. CVs of key technical staff to be submitted</p>	<input type="checkbox"/> YES <input type="checkbox"/> NO	3.5.1 Personnel Skills Review	Go / No-Go
5	<p>Bidders must submit schedules detailing -</p> <ul style="list-style-type: none"> • Experience in developing, testing and industrialisation of helium systems; • Experience in developing, testing and industrialising low Radio Frequency Interference (RFI) systems; • Experience in developing, testing and industrialising cryogenic systems that operate over extended periods. 	<input type="checkbox"/> Yes <input type="checkbox"/> No	Page 17 Technical Experience	Go / No-Go

No	Evaluation Criteria (All criteria are weighted equally to each other)	Meet Specification Minimum	Bid Section Reference	Assessment methodology
6	<p>There is clear evidence of developing, testing and corrective maintenance of cryogenically cooled Radio Frequency Receivers systems. Proof should cover the following conditions -</p> <ul style="list-style-type: none"> • System production of 2 years; • System implementation and commissioning of 4 years; • System monitoring and corrective maintenance of 4 years; • System running condition should be continuous with less than 5% downtime per year. 	<input type="checkbox"/> YES <input type="checkbox"/> NO	3.5.1 Personnel Skills Review	Go / No-Go
7	<p>There is clear evidence of developing, testing and corrective maintenance of Vacuum systems. Proof should cover the following conditions -</p> <ul style="list-style-type: none"> • System production of 2 years; • System implementation and commissioning of 4 years; • System monitoring and corrective maintenance of 4 years; • System running condition should be continuous with less than 5% downtime per year. 	<input type="checkbox"/> YES <input type="checkbox"/> NO	3.5.1 Personnel Skills Review	Go / No-Go
8	<p>There is clear evidence of developing, testing and corrective maintenance of helium systems. Proof should cover the following conditions -</p> <ul style="list-style-type: none"> • System production of 2 years; • System implementation and commissioning of 4 years; • System monitoring and corrective maintenance of 4 	<input type="checkbox"/> YES <input type="checkbox"/> NO	3.5.6 Technical Experience	Go / No-Go

No	Evaluation Criteria (All criteria are weighted equally to each other)	Meet Specification Minimum	Bid Section Reference	Assessment methodology
	years; <ul style="list-style-type: none"> • System running condition should be continuous with less than 5% downtime per year. 			
9	Verify experience in developing, testing, and implementation in Radio Frequency Interference (RFI) intolerant environments. Proof should cover the following conditions - <ul style="list-style-type: none"> • System production of 2 years; • System implementation and commissioning of 4 years; • System monitoring and corrective maintenance of 4 years; • System running condition should be continuous with less than 5% downtime per year. 	<input type="checkbox"/> YES <input type="checkbox"/> NO	3.5.6 Technical Experience	Go / No-Go
10	Verify experience in developing, testing, and corrective maintenance of cryogenic systems that operate over extended periods. Proof should cover the following conditions: <ul style="list-style-type: none"> • System production of 2 years; • System implementation and commissioning of 4 years; • System monitoring and corrective maintenance of 4 years; • System running condition should be continuous with less than 5% downtime per year. 	<input type="checkbox"/> YES <input type="checkbox"/> NO	3.5.6 Technical Experience	Go / No-Go

No	Evaluation Criteria (All criteria are weighted equally to each other)	Meet Specification Minimum	Bid Section Reference	Assessment methodology
11	Verify evidence of fault-finding and repair capabilities of cryogenically cooled Radio Frequency receiver systems over a 4-year period	<input type="checkbox"/> YES <input type="checkbox"/> NO	3.5.7 Tools/facilities	Go / No-Go
12	Show proof that repairs and produced units are passed through an approved acceptance testing procedure and delivered with a report	<input type="checkbox"/> YES <input type="checkbox"/> NO	3.5.7 Tools/facilities	Go / No-Go
13	Compliance Certificate (in the form of a proposal) of delivering the deliverables stated in the statement of work.	<input type="checkbox"/> Yes <input type="checkbox"/> No	Page 17 Compliance with deliverables certificate/proposal	Go / No-Go
14	Delivery of detailed technical data, where applicable, on any engineering changes of modifications	<input type="checkbox"/> Yes <input type="checkbox"/> No	Page Error! Bookmark not defined. Delivery of manufacturing data packs	Go / No-Go
15	Verify there are established quality management systems in place	<input type="checkbox"/> YES <input type="checkbox"/> NO	3.5.2 Quality Management Systems Review	Go / No-Go
16	Certification of quality management systems, if applicable	<input type="checkbox"/> Yes <input type="checkbox"/> No	Page 16 Quality Management Systems Review	Go / No-Go
PRODUCT TECHNICAL COMPLIANCE MEET SPECIFICATIONS				
17	Verify proposed delivery of detailed manufacturing data	<input type="checkbox"/> YES	3.5.5 Delivery of	Go / No-Go

No	Evaluation Criteria (All criteria are weighted equally to each other)	Meet Specification Minimum	Bid Section Reference	Assessment methodology
	packs.	<input type="checkbox"/> NO	manufacturing data packs	

Due Diligence during Bid Evaluation eligibility

In accordance with Bid Instruction No. 14 on page 28, during the evaluation of this bid, SARAO reserves the right carry out such due diligence on shortlisted bidders as it deems necessary, which due diligence may include requesting shortlisted bidders to submit reference letters from clients for whom similar services have been provided within the last sixty months (preferably last thirty-six months) that meets the minimum threshold of "Meets requirements."

Page 65
Reference Letter Format

STAGE 3 – PRICE AND B-BBEE POINTS SCORING

Bids which meet the minimum requirements in Stage 2, will be evaluated on price and B-BBEE status level (Stage 3) as follows (Refer to SBD 6.1 – Preference Points Claim Form on page 61 for the formula for points calculation):

CRITERIA	POINTS
PRICE	80
B-BBEE STATUS LEVEL OF CONTRIBUTION	20
TOTAL POINTS FOR PRICE AND B-BBEE MUST NOT EXCEED	100

PART A.1 – BID PREPARATION

BIDDING INSTRUCTIONS

Bidders are urged to carefully study these bidding instructions, as well as all corresponding instructions pertaining to the bid evaluation criteria, scope of services, pricing and returnable, contained in this bid document. Failure to comply with these instructions will be at the bidder's risk, and may affect the evaluation of its bid.

1.	<u>Late bids</u>
1.1	Bids received after the closing time and/or date will not be considered.
2.	<u>Authority of bid signatory</u>
2.1	The bid must be signed by a person duly authorised to do so.
3.	<u>Clarification of the bid</u>
3.1	A bidder requiring any clarification of the bid documents may direct the request for clarification in writing, to the SARAO representatives listed on the cover page of this bid document.
3.2	A response will be provided by SARAO in writing. The response (including an explanation of the query, but without identifying the source of the query) will be sent to all prospective, identifiable bidders.
3.3	The last date for the submission of requests for clarification shall be three (3) working days from the closing date of the tender.
4.	<u>Bid preparation costs</u>
4.1	Bidders will be responsible for all costs associated with the preparation and submissions of their bids.
5.	<u>Tender Briefing Session and Site Visits</u>
5.1	Where applicable, the arrangements for a compulsory / non-compulsory tender briefing session and / or site visit are as stated in the Invitation to Tender.
5.2	Bidders should be represented by a person or persons who are suitably qualified and experienced to comprehend the aspects of the work involved.
5.3	Where the briefing session or site visit is compulsory, bidders not represented at such briefing session or site visit will be precluded from submitting a bid.
6.	<u>Counter proposals</u>
6.1	No counter proposals will be accepted.
7.	<u>Alterations to the bid document</u>
7.1	Bidders may not make any alterations or additions to the content of this bid document, except to comply with the instructions issued by SARAO. Any alterations made to the content of this bid document other than those mandated by SARAO will result in the invalidation of a bidder's submission.
8.	<u>Submitting a tender offer</u>

8.1	Bidders may submit one tender offer only, either as a single tendering entity or as a member of a joint venture or consortium, unless otherwise stated in this bid document.
8.2	Each party to a joint venture or consortium must individually complete and submit the SBD returnable schedules included in this bid document.
8.3	Bidders must return all returnable documents and schedules after completing them in their entirety, preferably electronically, or by writing legibly in non-erasable ink.
8.4	The bid document must be submitted in its entirety.
9.	<u>Alternative Tender Offers</u>
9.1	Unless otherwise stated in this bid document, alternative tenders offers may only be submitted if a main tender offer, strictly in accordance with all the requirements of the bid documents is also submitted, as well as a schedule that compares the requirements of the bid document with the alternative requirements proposed.
9.2	An alternative tender offer must be based only on the criteria stated in this bid document, or criteria otherwise acceptable to SARAO.
9.3	An alternative tender offer will only be considered if the main tender offer is the winning tender.
10.	<u>Clarification of bidder's tender offer after submission</u>
10.1	Bidders may be required by SARAO, to provide clarification of their tender offer during the bid evaluation or adjudication stages. This may include providing a breakdown of rates or prices, or correction of arithmetical errors by the adjustment of certain rates or item prices (or both).
10.2	No change in the competitive position of bidders or substance of the tender offer may be sought, offered, or permitted.
11.	<u>Two envelope system</u>
11.1	SARAO utilises the two-envelope system to minimise any form of price bias in the technical evaluation phase.
11.2	All responses must be submitted in two sealed envelopes, alternatively two electronic folders (if submissions are required to be electronic); the first envelope/folder shall contain the technical, and compliance response and the second shall contain only the pricing response.
11.3	Bidders must ensure that they do not include any pricing details in the first envelope/folder, as SARAO reserves the right to disqualify such bids.
11.4	Bidders are required to package their bid as follows: <ul style="list-style-type: none"> ● Envelope/ Folder 1: Compliance and Technical Response ● Envelope/ Folder 2: Pricing Response
12.	<u>Central Supplier Database registration</u>
12.1	No award may be made to a bidder who is not registered with the National Treasury Central Supplier Database (CSD), and has not submitted evidence of such registration in the form of a valid CSD Registration Number.

12.2	Bidders not registered with CSD are not precluded from submitting bids, but must be registered prior to award of the bid.
13.	<u>Tax compliance status</u>
13.1	Bidders must ensure that their tax matters are in order. No award will be made to any bidder whose tax matters have not been declared to be in order by the South African Revenue Services (SARS).
13.2	Each party to a joint venture, consortium or partnership must comply with the above requirement.
13.3	The bid will be declared non-responsive in the event that the bidder's tax matters are shown not be in order, and the bidder fails to ensure that its tax matters are in order within a minimum of 7 days, or within such extended timeframe as may be granted by SARAO in writing.
14.	<u>Due Diligence during Bid Evaluation</u>
14.1	During the evaluation of the bid, SARAO reserves the right carry out such due diligence on bidders as it deems necessary, which due diligence may include requesting bidders to submit reference letters from clients for whom similar services have been provided.
14.2	Where reference letters are requested in terms of section 14.1 above, bidders must ensure that they are completed in the template provided in this bid document, or in the same format on a client's letterhead.
14.3	Reference letters submitted must, at a minimum, indicate that the bidder "meets requirements" for each performance indicator stipulated on the reference letter.
15.	<u>Invalid bids</u>
15.1	Tenders shall be invalid if –
15.1.1	In a two-envelope system, a bidder fails to submit both a technical proposal and a separate financial offer.
15.1.2	The bidder is listed on the National Treasury's Register for Tender Defaulters in terms of the Prevention and Combating of Corrupt Activities Act, No. 12 of 2004, or has been listed on the National Treasury's List of Restricted Suppliers and who is therefore prohibited from doing business with the public sector.
15.3	The bidder has been restricted from doing business with any Organ of state.
16.	<u>Price negotiations prior to award</u>
16.1	The award of this bid may be subject to price negotiations with the preferred bidder or bidders, where there are opportunities for realising cost savings, or where bid prices are not market related.
16.2	SARAO reserves the right to reject overpriced or under-priced bids outside the identified price range for the bid.
17.	<u>Cancellation of the bid prior to award</u>
17.1	SARAO reserves the right to cancel this bid at any time before award, where -
17.1.1	Due to changed circumstances there is no longer a need for the services specified in this bid.
17.1.2	Funds are no longer available to cover the total envisaged expenditure for the project.

17.1.3	No bids meet the required specifications.
17.1.4	There is a material irregularity in the bid process.
18.	<u>Bid award</u>
18.1	The bid will be awarded after approval by the NRF, to the bidder with the highest combined score for Price and B-BBEE status level, unless other objective criteria, specified in the bid document, applies.
18.2	The award will be subject to final verification of the bidder's tax compliance status.
19.	<u>Collusion, fraud and corruption</u>
19.1	Any effort by the bidder to influence evaluation, comparisons, or award decisions in any manner will result in the rejection and disqualification of the bidder concerned.
20.	<u>Fronting</u>
20.1	SARAO supports Government's Broad-based Black Economic Empowerment (B-BBEE) initiatives, recognising that real empowerment is achieved by individuals and businesses conducting themselves in accordance with the Constitution and in an honest, fair, equitable, transparent, and legally compliant manner. Therefore, SARAO condemns any form of fronting.
20.2	SARAO's evaluation committees may conduct or initiate investigations to determine the accuracy of bidders' B-BBEE representations.
20.3	Should SARAO have reasonable grounds to suspect any form of fronting, the bidder in question will be notified and given 7 days from the date of notification to provide evidence refuting the finding of fronting.
20.4	Should the bidder be unable to refute the finding to the satisfaction of SARAO, SARAO reserves the right to reject the bid submitted by the bidder or cancel any contracts entered into with the bidder, and apply to National Treasury to restrict for the bidder to be restricted from conducting business with the public sector for a period not exceeding 10 years, and exercise any other remedies SARAO may have against such a bidder.
21.	<u>Disclaimers</u>
21.1	SARAO has produced this document in good faith. SARAO, its agents, and its employees and associates do not warrant its accuracy or completeness; make no representation, warranty, assurance, guarantee or endorsements to any third parties concerning the document. SARAO has no liability towards the bidders in connection therewith.

PART B – THE CONTRACT

SPECIAL CONDITIONS OF CONTRACT

These Special Conditions of Contract must be cross-referenced against the General Conditions of Contract (GCC) (Page 41 - 46 below). The Special Conditions of Contract qualify or augment specific clauses of the GCC, or introduce conditions not included in the GCC.

The following are the special conditions of the contract:

1	Definitions
<i>Substitute GCC Clause 1.21 with the following:</i>	
1.21	“Purchaser” means the South African Radio Astronomy Observatory (SARAO), a business unit of the NRF.
<i>Substitute Clause 1.24 with the following:</i>	
1.24	“Services” means the services rendered to the Purchaser by the Supplier in accordance with the scope of services detailed in this Agreement
<i>Add the following definitions after Clause 1.25:</i>	
1.26	“Agreement” means the Contract, being the Bid Document, including these Special Conditions of Contract; the Supplier’s bid and price submission in response to Bid Ref: NRF/SARAO SMRK/16/2022-23; and any Annexures, Schedules or Addendums referred to herein;
1.27	“Annexures”, “Schedules” and “Addendums” means any document of the aforesaid description reduced to writing and signed by the Parties, which is from time to time incorporated in this Agreement. These documents may be amended in writing by mutual agreement between the Parties;
1.28	“Bid Document” means the bid document issued by the Purchaser on Friday, 17 June 2022, with reference number NRF/SARAO SMRK/16/2022-23;
1.29	“Commencement date” means the date of last signature of the Agreement between the Parties;
1.30	“FAT” means Factory Acceptance Test;
1.31	“Material Breach” means a breach by either Party of a material obligation, imposed on such Party in terms of this Agreement, which breach deprives the other Party of such reasonable benefits or caused or may cause harm to any such Party’s interests;
1.32	“NCR” means non-compliance report;

1.33	“ NRF ” means the National Research Foundation, a public entity established in terms of Schedule 3A of the Public Finance Management Act, No. 1 of 1999;
1.34	“ Parties ” means the Purchaser and Supplier, referred to collectively;
1.35	“ Personnel ” means either Party’s, as the context may indicate, directors, employees, officers, each aforementioned acting strictly in the course and scope of its employment towards a Party, or Agents;
1.36	“ Premises ” means the site or premises of the Purchaser, where the goods will be delivered by the Supplier in terms of this Agreement, as described in the Bid Document;
1.37	“ SAT ” means Site Acceptance Test;
1.38	“ Supplier ” means the provider of the Services, with whom the Agreement is concluded;
1.39	“ Third Party ” means any person or party who is not a Party to this Agreement.
Substitute Clause 3 in its entirety with the following:	
3	Commencement and Duration
3.1	Commencement will be the date of last signature of the Agreement between the Parties.
3.2	Unless terminated by either Party in accordance with Clauses 22A, 23 and 25, this Agreement shall commence on the commencement date and remain in force for a period of three years.
3A	The Supplier’s Obligations
3A.1	The Supplier agrees, undertakes, covenants and warrants (all where applicable) to, inter alia: -
3A.1.1	Supply the goods in accordance with the supply specifications detailed in the Bid Document, and in accordance with the Agreement and good industry practice applicable from time to time.
3A.1.2	Manage, together with the contract manager and end user, the delivery of parts and services as follows:
3A.1.2.1	All parts delivered to be tracked through the relevant RAMLOG or equivalent system;
3A.1.2.2	Maintain all necessary records;
3A.1.3	Prepare all documentation, CAD models, and any other information to be delivered to the client in a format compatible with the client document control system.
3A.1.4	Arrange the logistics, equipment, transport where applicable, standing arrangements with client to discussed and implemented.
3A.1.5	Where required, request, in writing, approval from the Purchaser to deviate from the specifications

	contained in the Bid Document, in any way.
3A.1.6	Acknowledge a non-compliance report (NCR) within 48 hours of receipt of such report from the Purchaser.
3A.1.7	Subject to Clauses 22A, 23, and 25, it will complete and deliver the goods within the contract duration, or any extended period thereof.
3A.1.8	On completion or termination of the Agreement, return all property belonging to the Purchaser in its possession, back to the latter.
3A.1.9	Comply with all reasonable and lawful instructions of the Purchaser, within the scope of this Agreement.
3A.1.10	Comply with all laws relating to wages and conditions generally governing the employment of labour in South Africa.
3A.1.11	Observe all COVID-19 protocols required by the Purchaser at its Premises.
3B	The Purchaser's Obligations
3B.1	The Purchaser agrees, undertakes, covenants and warrants (all where applicable) that, inter alia -
3B.1.1	It will verify that the deliverables meet the specified requirements and shall verify this through written acceptance or through the RAMLOG or equivalent system.
3B.1.2	It will procure the specified goods and services from the Supplier only.
3B.1.3	It will issue a sole manufacturing licence to the Supplier for the production of the units from the finalised industrialised production line.
3B.1.4	It will allow the Supplier and its Personnel reasonable access to the Purchaser's Premises and such facilities, as required by the Supplier, to ensure the Supplier fulfils its obligations in terms of this Agreement.
3B.1.5	It will consider any requests from the Supplier for deviations from the specifications, on the basis of quality, price, schedule, and technical risk, and grant or reject such request by written communication to the Supplier.
3B.1.6	include a record of all approved deviations on the Certificate of Compliance issued to the Supplier upon delivery.
3B.1.7	It will communicate to the Supplier, by means of a formal written NCR, any defects on any goods delivered by the Supplier, as well as any defective repair work effected by the Supplier, or its workmanship.
3B.1.8	It will advise the Supplier of any change to its processes or circumstances which are relevant to the supply of the goods by the Supplier in writing immediately once it becomes aware of such change.

	The aforesaid includes current and future circumstances which, given the Purchaser's knowledge of the supply requirement, may make the delivery of the goods by the Supplier and its Personnel more difficult or dangerous.
3B.1.9	It will make payment to the Supplier for the delivery of the Goods and services as set out herein within thirty (30) days after receipt of an invoice from the Supplier, paid free from set-off, deduction or arbitrary withholding;
3B.1.10	It will notify the Supplier of any dishonest, wrongful or negligent (gross or otherwise) act or omission of the Supplier's Personnel in connection with the Services as soon as reasonably possible after the Purchaser becomes aware of the same.
3C	Delivery of the Goods and Services
3C.1	The goods and services must be delivered to the Purchaser's Premises as specified in the Bid Document with the final approval from the contract manager.
5	Use of Contract Documents and Information
Add the following clause after Clause 5.4:	
5.5	The recipient of confidential information shall be careful and diligent as not to cause any unauthorized disclosure or use of the confidential information, in particular, during the contract term and after termination of the contract. The recipient shall not:
5.5.1	Disclose the confidential information, directly or indirectly, to any person or entity, without the purchaser's prior written consent.
5.5.2	Use, exploit or in any other manner whatsoever apply the confidential information for any other purpose whatsoever, other than for the execution of the contract and the delivery of the deliverables or
5.5.3	Copy, reproduce, or otherwise publish confidentiality information except as strictly required for the execution of the contract.
5.6	The recipient shall ensure that any employees, agents, directors, contractors, service providers, and associates which may gain access to the confidential information are bound by agreement with the recipient both during the term of their associations with the recipient and after termination of their respective associations with the recipient, not to -
5.6.1	Disclose the confidential information to any third party, or
5.6.2	Use the confidential information otherwise than as may be strictly necessary for the execution of the contract,
5.6.3	The recipient shall take all such steps as may be reasonably necessary to prevent the confidential information from falling into the hands of any unauthorized third party.

5.7	The undertakings set out in this clause shall not apply to confidential information, which the recipient is able to prove:
5.7.1	Was independently developed by the recipient prior to its involvement with the purchaser or in the possession of the recipient prior to its involvement with the purchaser;
5.7.2	Is now or hereafter comes into the public domain other than by breach of this contract by the recipient;
5.7.3	Was lawfully received by the recipient from a third party acting in good faith having a right of further disclosure and who do not derive the same directly or indirectly from the purchaser, or
5.7.4	Required by law to be disclosed by the recipient, but only to the extent of such order and the recipient shall inform the purchaser of such requirement prior to any disclosure.
5.8	The recipient shall within one (1) month of receipt of a written request from the purchaser to do so, return to the purchaser all material embodiments, whether in documentary or electronic form, of the confidential information including but not limited to:
5.8.1	All written disclosures received from the purchaser;
5.8.2	All written transcripts of confidential information disclosed verbally by the purchaser; and
5.8.3	All material embodiments of the contract intellectual property.
5.9	The recipient acknowledges that the confidential information is made available solely for the execution of the contract and for no other purpose whatsoever and that the confidential information would not have been made available to the recipient, but for the obligations of confidentiality agreed to herein.
5.10	Except as expressly herein provided, this contract shall not be construed as granting or confirming, either expressly or impliedly any rights, licences or relationships by furnishing of confidential information by either party pursuant to this contract.
5.11	The recipient acknowledges that the unauthorised disclosure of confidential information may cause harm to the purchaser. The recipient agrees that, in the event of a breach or threatened breach of confidentiality, the purchaser is entitled to seek injunctive relief or specific performance, in order to obtain immediate remedies. Any such remedy shall be in addition to and not in lieu of any other remedies available at law, including monetary damages.
5.12	Copyright and Intellectual Property
5.12.1	The Purchaser shall provide a sole manufacturing intellectual property licence for the specified units produced on the production line, to the Supplier.
5.12.2	The Purchaser shall not license any other organisation to produce the units, unless the Supplier fails in its performance of this contract.

5.12.3	The Purchaser shall provide templates, manufacturing data packs, and similar equipment/data transfer necessary for the execution of the project, and these shall remain the property of the Purchaser.
5.12.4	On completion or cancellation of the contract, the Supplier shall return all property of the Purchaser in its possession back to the latter.
5.12.5	All jigs, tools, templates, manufacturing data packs, and similar equipment necessary for the execution of this contract is property of the Purchaser, where the Purchaser pays for these.
5.12.6	On completion or cancellation of the contract, the Supplier shall return all property of the Purchaser in its possession back to the latter.
7	Performance Security
<i>Clause 7 in its entirety shall not be applicable to this Agreement.</i>	
11	Insurance
<i>Add the following clauses after Clause 11.1:</i>	
11.2	Without limiting the obligations of the Supplier in terms of this Agreement, the Supplier shall effect and maintain the following additional insurances:
11.2.1	Registration / insurance in terms of the Compensation for Occupational Injuries and Disease Act, Act 130 of 1993. This can either take the form of a certified copy of a valid Letter of Good Standing issued by the Compensation Commissioner, or proof of insurance with a licenced compensation insurer, from either the Supplier's broker or the insurance company itself.
11.3	The Supplier shall be obliged to furnish the Purchaser with proof of such insurance as the Purchaser may require from time to time for the duration of this Agreement.
11.4	The Supplier shall carry insurance of at least R 2 million for both public liability, including product liability, and professional indemnity.
13	Incidental Services
<i>Substitute Clause 13.1 with the following:</i>	
13.1	Any incidental services required for the delivery of the contract shall be agreed upon in advance by the Parties and will only be valid if confirmed through the issue of a written purchase order that specifies, where applicable, quality, quantity, description, unit price, and delivery date.
13.2	Incidental services shall include all services to support the contract, including training, technical support, software upgrades, firmware upgrades, component upgrades, and calibration services.

15	Warranty	
Add the following clause after Clause 15.1:		
15.2	The Supplier must provide a warranty on the Goods delivered to the Purchaser, determined per part or on the discretion of the Purchaser's Contract Manager.	
16.	Payment	
Add the following clause after Clause 16.4:		
16.5	Goods delivered, and accepted by the Purchaser in verification tests, may be invoiced for.	
16.6	The Supplier's invoices must meet the following minimum requirements: (a) reference the purchase order number (b) Detailed line items as specified in purchase order (c) Include statement of account	
16.7	Invoices must be accompanied by the Purchaser's authorised representative's signature, confirming delivery in accordance with prescribed quality and/or quantity, conformance to specification, and unit pricing in accordance with the contract and any purchase orders issued in terms of the Agreement.	
17	Prices	
Add the following clause after clause 17.1:		
17.2	Price adjustments based on Rate of Exchange fluctuations, for imported Goods, will be permitted.	
22	Penalties	
Substitute Clause 22.1 in its entirety with the following:		
22.1	Subject to Clause 25 and excluding any act or omission of the Client or Third Party(ies) that cause or contribute to a failure of Services, if the Supplier fails to deliver any or all of the Goods within the period(s) specified in the Agreement, the Purchaser shall, without prejudice to its other remedies under the Agreement, apply the following penalties –	
	Performance being Measured	Measurement Methodology
	Extension of the current Line Replaceable Units (LRU) spare pool to include spare SRU unit that is not assembled into LRU's already in order to improve Meerkat maintainability	Deliverables met as specified
		Penalty
		Payment issued only for deliverables met on discretion of contract manager. Any failures or corrective action required to be for the contract providers cost

	Repair and parts supply for existing equipment	Deliverables met as specified	Payment issued only for deliverables met on discretion of contract manager. Any failures or corrective action required to be for the contract providers cost
	Time and Engineering/Technical Support	Time spent achieving a deliverable according to the operational requirement specified by the contract manager	Payment issued only for deliverables met on discretion of contract manager. Any failures or corrective action required to be for the contract providers cost
22A	Breach of Contract		
<i>Insert a new clause numbered Clause 22A, as follows:</i>			
22A.1	If a Party commits a Material Breach of any provision of this Agreement, and the breach is capable of remedy, the other Party may call in writing on the Party in breach to remedy the breach within a period of 7 (seven) days from receipt of such notification.		
22A.2	If the breach remains unremedied after the aforesaid notice period has expired, the Party calling on the Party in breach will be entitled, but not compelled, to either terminate this Agreement with immediate effect by written notice to the Party in breach and without prejudice to any of its rights to recover direct loss or direct damage or demand specific performance by the Party in breach.		
23	Termination for Default		
<i>Substitute Clause 23.1 in its entirety with the following:</i>			
23.1	Either Party shall have the right, without prejudice to its other rights and remedies, to terminate this Agreement forthwith by written notice to the other Party if such other Party-		
23.1.1	commits a Material Breach of any provision of this Agreement, and the breach is incapable of remedy;		
23.1.2	is unable to pay its debts or becomes commercially insolvent or commits any act of insolvency;		
23.1.3	is the subject of any order made or a resolution passed for the administration, winding-up or dissolution for reasons or purposes other than a solvent amalgamation or restructuring;		
23.1.4	has an administrative or other receiver, manager, trustee, liquidator, administrator, or similar officer appointed over all or any substantial part of its assets;		
23.1.5	enters into or proposes any composition or arrangement with its creditors generally;		
23.1.6	files and/or receives an application or resolution for business rescue and/or is placed under business		

	rescue pursuant to the sections of the Companies Act, No. 71 of 2008;
23.1.7	is the subject of any events or circumstances analogous to the foregoing in any applicable jurisdiction.
Add the following new clause after Clause 23.1:	
23.2	Should this Agreement be terminated only in respect of any one or more Services as provided for herein for any reason, this Agreement shall, unless otherwise mutually agreed to in writing between the Parties, remain in full force and effect in respect of the remainder of Services as set out in this Agreement.
25	Force Majeure
Substitute Clause 25 in its entirety with the following -	
25.1	Neither Party shall be liable, or liable for failure to perform its obligations, under this Agreement if the failure results from any Force majeure event.
25.2	In the event of a force majeure event, the Party whose performance is affected by such event shall promptly notify the other Party in writing of such event, and the cause thereof. Unless otherwise directed by the Client in writing, the Contractor shall continue to perform its obligations under the contract as far as is reasonably practical, and shall use its best endeavors to seek all reasonable alternative means for performance not prevented by the Force majeure event.
25.3	Should any Force majeure event persist for a continuous period of one (1) month, either Party shall have the right to terminate the Agreement with immediate effect.
31	Notices
Substitute Clause 31 with the following -	
31.1	Any notice, request, consent, approvals or other communications made between the Parties pursuant to the Agreement shall be in writing and forwarded to the addresses specified in the Agreement and may be given as set out hereunder and shall be deemed to have been received when: <ul style="list-style-type: none"> (a) hand delivered – on the day of delivery; (b) registered mail – five (5) working days after mailing; (c) email – after it has been sent
Add the following clauses after Clause 34 -	
35	Whole Agreement
35.1	The Agreement between the Parties shall inter alia comprise of the following documents –
35.1.1	the Bid Document;

25.1.2	these Special Conditions of Contract;
35.1.3	the Supplier's bid submission in response to Bid Ref: NRF/SARAO SMRK/16/2022-23;
35.1.4	the Supplier's bid price submission in response to Bid Ref: NRF/SARAO SMRK/16/2022-23;
35.1.5	any Annexures, Schedules or Addendums referred to in the abovementioned documents.
35.2	In the event of a conflict between the General Conditions of Contract and the Special Conditions of Contract, the latter will prevail.
35.3	The Agreement documentation as referred to in Clause 35.1 above, subject to Clause 35.2 above, supersedes and replaces any prior arrangements, agreements and understandings of any nature whatsoever that may exist between the Parties with regards to any aspect, matter or thing referred to herein and shall be the sole recordal device of the Parties' rights and obligations vis-à-vis each other, in relation to the subject matter hereof.
36	Occupational Health and Safety when working on the Purchaser's Premises
36.1	All personnel performing work on the Purchaser's Premises as part of this Agreement are required to undergo safety induction.
36.2	Over and above the obligations required by the Occupational Health and Safety Act (OHS Act No 85 of 1993 and its Regulations, known as 'the Act'), the Supplier will be required to comply with all relevant health and safety instructions given to them by the Purchaser's site safety Personnel, where relevant. Personal protection equipment, including closed safety shoes, hard hats, height safety equipment, and high visibility vests must be worn at all times while on the work site. All Personnel are to obey the relevant instructions, including signage, related to restricted access and speed limits on all sites.
35.3	The Supplier, once signing the Agreement, is responsible for itself, its Personnel, and all persons affected by its operations in terms of the Act and regulations promulgated in terms thereof. The Supplier must perform all work and use equipment on site in compliance with the provisions of the Act.
35.4	Where required by the Purchaser, the Supplier must submit its Letter of Good Standing in terms of the COID Act to the Purchaser, and must ensure that it remains valid for the duration of the Agreement.
35.5	The Supplier must maintain a health and safety plan complying with the requirements of the Act during the period that the Services takes place on the Purchaser's Premises.
35.6	The Supplier shall accept liability for any contraventions of the Act. Each member of the Supplier's Personnel (including sub-contracted personnel), must submit a signed indemnity form prior to entering the Purchaser's Premises, which forms must be kept in the Supplier's health and safety file.
35.7	Covid Protocols

35.7.1	All COVID-19 protocols required at the Purchaser's Premises, and the CSIR must be observed by the Supplier.
35.7.2	In accordance with the SARAO Employees and Visitors Access Control Procedure dated 22 April 2022, the protocols for visitors to any SARAO premises are as follows –
35.7.2.1	Short-stay visitors, meaning persons visiting any SARAO Cape Town Premises for less than one day, will be required to produce a Covid vaccination certificate before entry to the Premises, and if not vaccinated, a negative Covid Rapid ANTIGEN test result not older than 48 hours.
35.7.2.2	Short-stay visitors making deliveries will not be required to produce vaccination certificates or a Covid Rapid ANTIGEN test result, but they will not be allowed to proceed into the office. They will leave the delivery at the security desk.
35.7.2.3	Long-stay visitors, meaning persons visiting the SARAO Cape Town Premises for consecutive days, will be required to produce a Covid vaccination certificate before entry to the Premises, and if not vaccinated, a negative Covid Rapid ANTIGEN test result not older than 48 hours.
35.8	International Visitors
35.8.1	International visitors are required by the South African Government to produce a Covid vaccination certificate or a negative Rapid ANTIGEN test result in order to be admitted into the country.
35.8.2	Long-stay international visitors will be required to produce their Covid vaccination certificate or a negative Covid Rapid ANTIGEN test not older than 48 hours, prior to being admitted access to any SARAO Premises.

GENERAL CONDITIONS OF CONTRACT (GCC)

In this document words in the singular also mean in the plural and vice versa, words in the masculine mean in the feminine and neuter, words "department" means organs of state inclusive of public entities and vice versa, and the words "will/should" mean "must".

The National Research Foundation cannot amend the National Treasury's General Conditions of Contract (GCC). The National Research Foundation compiles separate Special Conditions of Contract (SCC) relevant to this bid where applicable supplementing the General Conditions of Contract. Where there is conflict, the provisions of the Special Conditions of Contract shall prevail.

GCC 1	Definitions – The following terms shall be interpreted as indicated:
1.1	"Closing time" means the date and hour specified in the bidding documents for the receipt of bids.
1.2	"Contract" means the written agreement entered into between the purchaser and the supplier, as recorded in the contract form signed by the parties, including all attachments and appendices thereto and all documents incorporated by reference therein.
1.3	"Contract price" means the price payable to the supplier under the contract for the full and proper performance of his contractual obligations.
1.4	"Corrupt practice" means the offering, giving, receiving, or soliciting of anything of value to influence the action of a public official in the procurement process or in contract execution.
1.5	"Countervailing duties" are imposed in cases where an enterprise abroad is subsidized by its government and encouraged to market its products internationally.
1.6	"Country of origin" means the place where the goods were mined, grown, or produced, or from which the services are supplied. Goods produced when, through manufacturing, processing or substantial and major assembly of components, a commercially recognized new product results that is substantially different in basic characteristics or in purpose or utility from its components
1.7	"Day" means calendar day.
1.8	"Delivery" means delivery in compliance of the conditions of the contract or order.
1.9	"Delivery ex stock" means immediate delivery directly from stock actually on hand.
1.10	"Delivery into consignees store or to his site" means delivered and unloaded in the specified store or depot or on the specified site in compliance with the conditions of the contract or order, the supplier bearing all risks and charges involved until the supplies are so delivered and a valid receipt is obtained.
1.11	"Dumping" occurs when a private enterprise abroad market its goods on own initiative in the RSA at lower prices than that of the country of origin and which have the potential to harm the local industries in the RSA.
1.12	"Force majeure" means an event beyond the control of the supplier and not involving the supplier's fault or negligence and not foreseeable. Such events may include, but is not restricted to, acts of the purchaser in its sovereign capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions and freight embargoes.
1.13	"Fraudulent practice" means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of any bidder, and includes collusive practice among bidders (prior to or after bid submission) designed to establish bid prices at artificial non-competitive levels and to deprive the bidder of the benefits of free and open competition.
1.14	"GCC" mean the General Conditions of Contract.
1.15	"Goods" means all of the equipment, machinery, and/or other materials that the supplier is required to supply to the purchaser under the contract.
1.16	"Imported content" means that portion of the bidding price represented by the cost of components, parts or materials which have been or are still to be imported (whether by the supplier or his subcontractors) and which costs are inclusive of the costs abroad, plus freight and other direct importation costs such as landing costs, dock dues, import duty, sales duty or other similar tax or duty at the South African place of entry as well as transportation and handling charges to the factory in the Republic where the supplies covered by the bid will be manufactured.
1.17	"Local content" means that portion of the bidding price, which is not included in the imported content if local manufacture does take place.
1.18	"Manufacture" means the production of products in a factory using labour, materials, components, and machinery and includes other related value-adding activities.
1.19	"Order" means an official written order issued for the supply of goods or works or the rendering of a service.
1.20	"Project site", where applicable, means the place indicated in bidding documents.
1.21	"Purchaser" means the organization purchasing the goods.
1.22	"Republic" means the Republic of South Africa.
1.23	"SCC" means the Special Conditions of Contract.
1.24	"Services" means those functional services ancillary to the supply of the goods, such as transportation and any other incidental services, such as installation, commissioning, provision of technical assistance, training, catering, gardening, security, maintenance and other such obligations of the supplier covered under the contract.
1.25	"Written" or "in writing" means handwritten in ink or any form of electronic or mechanical writing.

GCC 1	Definitions – The following terms shall be interpreted as indicated:
GCC2	Application
2.1	These general conditions are applicable to all bids, contracts and orders including bids for functional and professional services, sales, hiring, letting and the granting or acquiring of rights, but excluding immovable property, unless otherwise indicated in the bidding documents.
2.2	Where applicable, special conditions of contract are also laid down to cover specific supplies, services or works.
2.3	Where such special conditions of contract are in conflict with these general conditions, the special conditions shall apply.
GCC 3	General
3.1	Unless otherwise indicated in the bidding documents, the purchaser shall not be liable for any expense incurred in the preparation and submission of a bid. Where applicable a non-refundable fee for documents may be charged.
3.2	With certain exceptions (National Treasury's eTender website), invitations to bid are only published in the Government Tender Bulletin. The Government Tender Bulletin may be obtained directly from the Government Printer, Private Bag X85, Pretoria 0001, or accessed electronically from www.treasury.gov.za
GCC 4	Standards
4.1	The goods supplied shall conform to the standards mentioned in the bidding documents and specifications.
GCC 5	Use of contract documents and information
5.1	The supplier shall not, without the purchaser's prior written consent, disclose the contract, or any provision thereof, or any specification, plan, drawing, pattern, sample, or information furnished by or on behalf of the purchaser in connection therewith, to any person other than a person employed by the supplier in the performance of the contract. Disclosure made to any such employed person is in confidence and shall extend only as far as may be necessary for purposes of such performance.
5.2	The supplier shall not, without the purchaser's prior written consent, make use of any document or information mentioned in GCC clause 5.1 except for purposes of performing the contract.
5.3	Any document, other than the contract itself mentioned in GCC clause 5.1 shall remain the property of the purchaser and shall be returned (all copies) to the purchaser on completion of the supplier's performance under the contract if so required by the purchaser.
5.4	The supplier shall permit the purchaser to inspect the supplier's records relating to the performance of the supplier and to have them audited by auditors appointed by the purchaser, if so required by the purchaser.
GCC6	Patent rights
6.1	The supplier shall indemnify the purchaser against all third-party claims of infringement of patent, trademark, or industrial design rights arising from use of the goods or any part thereof by the purchaser.
GCC7	Performance security
7.1	Within thirty days (30) of receipt of the notification of contract award, the successful bidder shall furnish to the purchaser the performance security of the amount specified in SCC.
7.2	The proceeds of the performance security shall be payable to the purchaser as compensation for any loss resulting from the supplier's failure to complete his obligations under the contract.
7.3	The performance security shall be denominated in the currency of the contract, or in a freely convertible currency acceptable to the purchaser and shall be in one of the following forms: 7.3.1 bank guarantee or an irrevocable letter of credit issued by a reputable bank located in the purchaser's country or abroad, acceptable to the purchaser, in the form provided in the bidding documents or another form acceptable to the purchaser; or 7.3.2 cashier's or certified cheque.
7.4	The performance security will be discharged by the purchaser and returned to the supplier within thirty (30) days following the date of completion of the supplier's performance obligations under the contract, including any warranty obligations, unless otherwise specified in SCC.
GCC8	Inspections, tests and analyses
8.1	All pre-bidding testing will be for the account of the bidder.
8.2	If it is a bid condition that supplies to be produced or services to be rendered should at any stage during production or execution or on completion be subject to inspection, the premises of the bidder or contractor shall be open, at all reasonable hours, for inspection by a representative of the purchaser or an organization acting on behalf of the purchaser.
8.3	If there are no inspection requirements indicated in the bidding documents and no mention is made in the contract, but during the contract period, it is decided that inspections shall be carried out, the purchaser shall itself make the necessary arrangements, including payment arrangements with the testing authority concerned.
8.4	If the inspections, tests and analyses referred to in clauses 8.2 and 8.3 show the supplies to be in accordance with the contract requirements, the cost of the inspections, tests and analyses shall be defrayed by the purchaser.
8.5	Where the supplies or services referred to in clauses 8.2 and 8.3 do not comply with the contract requirements, irrespective of whether such supplies or services are accepted or not, the supplier shall defray the cost in connection with these inspections, tests, or analyses.
8.6	Supplies and services referred to in clauses 8.2 and 8.3 and which do not comply with the contract requirements may be rejected.
8.7	Any contract supplies may on or after delivery be inspected, tested or analysed and may be rejected if found not to comply with the requirements of the contract. Such rejected supplies are held at the cost and risk of the supplier who shall, when called upon, remove them immediately at his

GCC 1	Definitions – The following terms shall be interpreted as indicated:
	own cost and forthwith substitute them with supplies, which do comply with the requirements of the contract. Failing such removal the rejected supplies shall be returned at the suppliers cost and risk. Should the supplier fail to provide the substitute supplies forthwith, the purchaser may, without giving the supplier further opportunity to substitute the rejected supplies, purchase such supplies as may be necessary at the expense of the supplier.
8.8	The provisions of clauses 8.4 to 8.7 shall not prejudice the right of the purchaser to cancel the contract because of a breach of the conditions thereof, or to act in terms of Clause 23 of GCC.
GCC9	Packing
9.1	The supplier shall provide such packing of the goods as is required to prevent their damage or deterioration during transit to their final destination, as indicated in the contract. The packing shall be sufficient to withstand, without limitation, rough handling during transit and exposure to extreme temperatures, salt, and precipitation during transit, and open storage. Packing, case size and weights shall take into consideration, where appropriate, the remoteness of the goods' final destination and the absence of heavy handling facilities at all points in transit.
9.2	The packing, marking, and documentation within and outside the packages shall comply strictly with such special requirements as shall be expressly provided for in the contract, including additional requirements, if any, specified in SCC, and in any subsequent instructions ordered by the purchaser.
GCC10	Delivery and Documentation
10.1	Delivery of the goods shall be made by the supplier in accordance with the terms specified in the contract. The details of shipping and/or other documents to be furnished by the supplier are specified in SCC.
10.2	Documents submitted by the supplier specified in SCC.
GCC11	Insurance
11.1	The goods supplied under the contract shall be fully insured in a freely convertible currency against loss or damage incidental to manufacture or acquisition, transportation, storage and delivery in the manner specified in the SCC.
GCC12	Transportation
12.1	Should a price other than an all-inclusive delivered price be required, this shall be specified in the SCC.
GCC13	Incidental services
13.1	The supplier may be required to provide any or all of the following services, including additional services, if any, specified in SCC: 13.1.1 Performance or supervision of on-site assembly and/or commissioning of the supplied goods; 13.1.2 Furnishing of tools required for assembly and/or maintenance of the supplied goods; 13.1.3 Furnishing of a detailed operations and maintenance manual for each appropriate unit of the supplied goods; 13.1.4 Performance or supervision or maintenance and/or repair of the supplied goods, for a period of time agreed by the parties, provided that this service shall not relieve the supplier of any warranty obligations under this contract; and 13.1.5 Training of the purchaser's personnel, at the supplier's plant and/or on-site, conducted in assembly, start-up, operation, maintenance, and/or repair of the supplied goods.
13.2	Prices charged by the supplier for incidental services, if not included in the contract price for the goods, shall be agreed upon in advance by the parties and shall not exceed the prevailing rates charged to other parties by the supplier for similar services.
GCC14	Spare parts
14.1	As specified in SCC, the supplier may be required to provide any or all of the following materials, notifications, and information pertaining to spare parts manufactured or distributed by the supplier: 14.1.1 Such spare parts as the purchaser may elect to purchase from the supplier, provided that this election shall not relieve the supplier of any warranty obligations under the contract; and 14.1.2 In the event of termination of production of the spare parts: 14.1.2.1 Advance notification to the purchaser of the pending termination, in sufficient time to permit the purchaser to procure needed requirements; and 14.1.2.1 Following such termination, furnishing at no cost to the purchaser, the blueprints, drawings, and specifications of the spare parts, if requested.
GCC15	Warranty
15.1	The supplier warrants that the goods supplied under the contract are new, unused, of the most recent or current models and those they incorporate all recent improvements in design and materials unless provided otherwise in the contract. The supplier further warrants that all goods supplied under this contract shall have no defect, arising from design, materials, or workmanship (except when the design and/or material is required by the purchaser's specifications) or from any act or omission of the supplier, that may develop under normal use of the supplied goods in the conditions prevailing in the country of final destination.
15.2	This warranty shall remain valid for twelve (12) months after the goods, or any portion thereof as the case may be, have been delivered to and accepted at the final destination indicated in the contract, or for eighteen (18) months after the date of shipment from the port or place of loading in the source country, whichever period concludes earlier, unless specified otherwise in SCC.
15.3	The purchaser shall promptly notify the supplier in writing of any claims arising under this warranty.
15.4	Upon receipt of such notice, the supplier shall, within the period specified in SCC and with all reasonable speed, repair or replace the defective goods or parts thereof, without costs to the purchaser.

GCC 1	Definitions – The following terms shall be interpreted as indicated:
15.5	If the supplier, having been notified, fails to remedy the defect(s) within the period specified in SCC, the purchaser may proceed to take such remedial action as may be necessary, at the supplier's risk and expense and without prejudice to any other rights, which the purchaser may have against the supplier under the contract.
GCC16	Payment
16.1	The method and conditions of payment to be made to the supplier under this contract shall be specified in SCC.
16.2	The supplier shall furnish the purchaser with an invoice accompanied by a copy of the delivery note and upon fulfilment of other obligations stipulated in the contract.
16.3	Payments shall be made promptly by the purchaser, but in no case later than thirty (30) days after submission of an invoice or claim by the supplier.
16.4	Payment will be made in Rand unless otherwise stipulated in SCC.
GCC17	Prices
17.1	Prices charged by the supplier for goods delivered and services performed under the contract shall not vary from the prices quoted by the supplier in his bid, with the exception of any price adjustments authorized in SCC or in the purchaser's request for bid validity extension, as the case may be.
GCC18	Contract amendment
18.1	No variation in or modification of the terms of the contract shall be made except by written amendment signed by the parties concerned.
GCC19	Assignment
19.1	The supplier shall not assign, in whole or in part, its obligations to perform under the contract, except with the purchaser's prior written consent.
GCC20	Subcontract
20.1	The supplier shall notify the purchaser in writing of all subcontracts awarded under this contract if not already specified in the bid. Such notification, in the original bid or later, shall not relieve the supplier from any liability or obligation under the contract
GCC21	Delays in supplier's performance
21.1	Delivery of the goods and performance of services shall be made by the supplier in accordance with the time schedule prescribed by the purchaser in the contract.
21.2	If at any time during performance of the contract, the supplier or its subcontractor(s) should encounter conditions impeding timely delivery of the goods and performance of services, the supplier shall promptly notify the purchaser in writing of the fact of the delay, its likely duration, and its cause(s). As soon as practicable after receipt of the supplier's notice, the purchaser shall evaluate the situation and may at his discretion extend the supplier's time for performance, with or without the imposition of penalties, in which case the extension shall be ratified by the parties by amendment of contract.
21.3	No provision in a contract shall be deemed to prohibit the obtaining of supplies or services from a national department, provincial department, or a local authority.
21.4	The right is reserved to procure outside of the contract small quantities or to have minor essential services executed if an emergency arises, the supplier's point of supply is not situated at or near the place where the supplies are required, or the supplier's services are not readily available.
21.5	Except as provided under GCC Clause 25, a delay by the supplier in the performance of its delivery obligations shall render the supplier liable to the imposition of penalties, pursuant to GCC Clause 22, unless an extension of time is agreed upon pursuant to GCC Clause 21.2 without the application of penalties.
21.6	Upon any delay beyond the delivery period in the case of a supplies contract, the purchaser shall, without cancelling the contract, be entitled to purchase supplies of a similar quality and up to the same quantity in substitution of the goods not supplied in conformity with the contract and to return any goods delivered later at the supplier's expense and risk, or to cancel the contract and buy such goods as may be required to complete the contract and without prejudice to his other rights, be entitled to claim damages from the supplier.
GCC22	Penalties
22.1	Subject to GCC Clause 25, if the supplier fails to deliver any or all of the goods or to perform the services within the period(s) specified in the contract, the purchaser shall, without prejudice to its other remedies under the contract, deduct from the contract price, as a penalty, a sum calculated on the delivered price of the delayed goods or unperformed services using the current prime interest rate calculated for each day of the delay until actual delivery or performance. The purchaser may also consider termination of the contract pursuant to GCC Clause 23.
GCC23	Termination for default
23.1	The purchaser, without prejudice to any other remedy for breach of contract, by written notice of default sent to the supplier, may terminate this contract in whole or in part: 23.1.1 If the supplier fails to deliver any or all of the goods within the period(s) specified in the contract, or within any extension thereof granted by the purchaser pursuant to GCC Clause 21.2; 23.1.2 If the supplier fails to perform any other obligation(s) under the contract; or 23.1.3 If the supplier, in the judgment of the purchaser, has engaged in corrupt or fraudulent practices in competing for or in executing the contract.
23.2	In the event the purchaser terminates the contract in whole or in part, the purchaser may procure, upon such terms and in such manner as it deems appropriate, goods, works or services similar to those undelivered, and the supplier shall be liable to the purchaser for any excess costs

GCC 1	Definitions – The following terms shall be interpreted as indicated:
	for such similar goods, works or services. However, the supplier shall continue performance of the contract to the extent not terminated.
23.3	Where the purchaser terminates the contract in whole or in part, the purchaser may decide to impose a restriction penalty on the supplier by prohibiting such supplier from doing business with the public sector for a period not exceeding 10 years.
23.4	If a purchaser intends imposing a restriction on a supplier or any person associated with the supplier, the supplier will be allowed a time period of not more than fourteen (14) days to provide reasons why the envisaged restriction should not be imposed. Should the supplier fail to respond within the stipulated fourteen (14) days the purchaser may regard the intended penalty as not objected against and may impose it on the supplier.
23.5	Any restriction imposed on any person by the Accounting Authority will, at the discretion of the Accounting Authority, also be applicable to any other enterprise or any partner, manager, director or other person who wholly or partly exercises or exercised or may exercise control over the enterprise of the first-mentioned person, and with which enterprise or person the first-mentioned person, is or was in the opinion of the Accounting Authority actively associated.
23.6	If a restriction is imposed, the purchaser must, within five (5) working days of such imposition, furnish the National Treasury, with the following information: 23.6.1 the name and address of the supplier and / or person restricted by the purchaser; 23.6.2 the date of commencement of the restriction 23.6.3 the period of restriction; and 23.6.4 the reasons for the restriction. These details will be loaded in the National Treasury's central database of suppliers or persons prohibited from doing business with the public sector.
23.7	If a court of law convicts a person of an offence as contemplated in sections 12 or 13 of the Prevention and Combating of Corrupt Activities Act, No. 12 of 2004, the court may also rule that such person's name be endorsed on the Register for Tender Defaulters. When a person's name has been endorsed on the Register, the person will be prohibited from doing business with the public sector for a period not less than five years and not more than ten (10) years. The National Treasury is empowered to determine the period of restriction and each case will be dealt with on its own merits. According to Section 32 of the Act the Register must be open to the public. The Register can be perused on the National Treasury website.
GCC24	Anti-dumping and countervailing duties and rights
24.1	When, after the date of bid, provisional payments are required, or anti-dumping or countervailing duties are imposed, or the amount of a provisional payment or anti-dumping or countervailing right is increased in respect of any dumped or subsidized import, the State is not liable for any amount so required or imposed, or for the amount of any such increase. When, after the said date, such a provisional payment is no longer required or any such anti-dumping or countervailing right is abolished, or where the amount of such provisional payment or any such right is reduced, any such favourable difference shall on demand be paid forthwith by the contractor to the State or the State may deduct such amounts from moneys (if any) which may otherwise be due to the contractor in regard to supplies or services which he delivered or rendered, or is to deliver or render in terms of the contract or any other contract or any other amount which may be due to him.
SCC	No special condition applicable, unless specified elsewhere in this document.
GCC25	Force Majeure
25.1	Notwithstanding the provisions of GCC Clauses 22 and 23, the supplier shall not be liable for forfeiture of its performance security, damages, or termination for default if and to the extent that his delay in performance or other failure to perform his obligations under the contract is the result of an event of force majeure.
25.2	If a force majeure situation arises, the supplier shall promptly notify the purchaser in writing of such condition and the cause thereof. Unless otherwise directed by the purchaser in writing, the supplier shall continue to perform its obligations under the contract as far as is reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the force majeure event.
GCC26	Termination for insolvency
26.1	The purchaser may at any time terminate the contract by giving written notice to the supplier if the supplier becomes bankrupt or otherwise insolvent. In this event, termination will be without compensation to the supplier, provided that such termination will not prejudice or affect any right of action or remedy which has accrued or will accrue thereafter to the purchaser.
GCC27	Settlement of disputes
27.1	If any dispute or difference of any kind whatsoever arises between the purchaser and the supplier in connection with or arising out of the contract, the parties shall make every effort to resolve amicably such dispute or difference by mutual consultation.
27.2	If, after thirty (30) days, the parties have failed to resolve their dispute or difference by such mutual consultation, then either the purchaser or the supplier may give notice to the other party of his intention to commence with mediation. No mediation in respect of this matter may be commenced unless such notice is given to the other party.
27.3	Should it not be possible to settle a dispute by means of mediation, it may be settled in a South African court of law.
27.4	Mediation proceedings shall be conducted in accordance with the rules of procedure specified in the SCC.
27.5	Notwithstanding any reference to mediation and/or court proceedings herein, 27.5.1 the parties shall continue to perform their respective obligations under the contract unless they otherwise agree; and 27.5.2 the purchaser shall pay the supplier any monies due the supplier.
GCC28	Limitation of liability
28.1	Except in cases of criminal negligence or wilful misconduct, and in the case of infringement pursuant to Clause 6;

GCC 1	Definitions – The following terms shall be interpreted as indicated:
	28.1.1 the supplier shall not be liable to the purchaser, whether in contract, tort, or otherwise, for any indirect or consequential loss or damage, loss of use, loss of production, or loss of profits or interest costs, provided that this exclusion shall not apply to any obligation of the supplier to pay penalties and/or damages to the purchaser; and 28.1.2 the aggregate liability of the supplier to the purchaser, whether under the contract, in tort or otherwise, shall not exceed the total contract price, provided that this limitation shall not apply to the cost of repairing or replacing defective equipment.
GCC29	Governing language
29.1	The contract shall be written in English. All correspondence and other documents pertaining to the contract that is exchanged by the parties shall also be written in English.
GCC30	Applicable law
30.1	The contract shall be interpreted in accordance with South African laws, unless otherwise specified in SCC.
GCC31	Notices
31.1	Every written acceptance of a bid shall be posted to the supplier concerned by registered or certified mail and any other notice to him shall be posted by ordinary mail to the address furnished in his bid or to the address notified later by him in writing and such posting shall be deemed to be proper service of such notice.
31.2	The time mentioned in the contract documents for performing any act after such aforesaid notice has been given, shall be reckoned from the date of posting of such notice.
GCC32	Taxes and duties
32.1	A foreign supplier shall be entirely responsible for all taxes, stamp duties, license fees, and other such levies imposed outside the purchaser's country.
32.2	A local supplier shall be entirely responsible for all taxes, duties, license fees, etc., incurred until delivery of the contracted goods to the purchaser.
32.3	No contract shall be concluded with any bidder whose tax matters are not in order. Prior to the award of a bid, the Department must be in possession of a tax clearance certificate, submitted by the bidder. This certificate must be an original issued by the South African Revenue Services.
GCC33	National Industrial Participation Programme
33.1	The NIP Programme administered by the Department of Trade and Industry shall be applicable to all contracts that are subject to the NIP obligation.
GCC34	Prohibition of restrictive practices
34.1	In terms of Section 4 (1) (b) (iii) of the Competition Act No. 89 of 1998, as amended, an agreement between, or concerted practice by, firms, or a decision by an association of firms, is prohibited if it is between parties in a horizontal relationship and if a bidder (s) is/are or a contractor(s) was/were involved in collusive bidding (or bid rigging).
34.2	If a bidder(s) or contractor(s), based on reasonable grounds or evidence obtained by the purchaser, has/have engaged in the restrictive practice referred to above, the purchaser may refer the matter to the Competition Commission for investigation and possible imposition of administrative penalties as contemplated in the Competition Act No. 89 of 1998.
34.3	If a bidder(s) or contractor(s), has/have been found guilty by the Competition Commission of the restrictive practice referred to above, the purchaser may, in addition and without prejudice to any other remedy provided for, invalidate the bid(s) for such item(s) offered, and/or terminate the contract in whole or part, and/or restrict the bidder(s) or contractor(s) from conducting business with the public sector for a period not exceeding ten (10) years and/or claim damages from the bidder(s) or contractor(s) concerned.

PART B.1 – PRICING

PRICING INSTRUCTIONS

1.	<p>Applicable Currency: All prices must be quoted in South African Rand.</p>
2.	<p>Completion of Pricing Schedule: Bidders shall complete the pricing schedule in full, inserting all the information required therein. Bidders must quote on all items on the pricing schedule, failure to do so will result in disqualification of the bid.</p> <p>In addition to the pricing schedule in this bid document, bidders may prepare a more detailed pricing schedule should they wish to do so, and include this in their pricing proposal, provided that such additional pricing schedule is in line with the deliverables on the SARAO issued pricing schedule.</p>
3.	<p>Total Bid Cost: Prices quoted must be inclusive of all applicable taxes including VAT, less all unconditional discounts, plus all costs to deliver the services and/or goods.</p>
4.	<p>Exchange Rate Fluctuations: Where imported goods or services are to be used, and pricing is subject to exchange rate fluctuations, the applicable foreign currency must be stipulated, as well as the exchange rate at the time of bidding. The portion of the bid price subject to exchange rate fluctuations must be stated.</p>
5.	<p>Bid Price Calculation: Estimates of quantities are provided to allow for equal comparison between bidders.</p> <p>Bidding estimates of the work required are provided to allow for the calculation of bid prices for the industrialisation component and for the unit cost of the first four production units. The recovery of the industrialisation phase is not through the unit cost of the production units, but through the industrialisation component. This allows an equal comparison basis equitable to all bidders for award selection.</p> <p>As the objective of the bid is to provide these components to the full SKA System inclusive of the current operational MeerKAT system as required by the future construction schedules, future operational requirements, and technology changes/replacement parts as determined during the future operational life, these elements are excluded from the Bid Price Calculation to allow an equal comparison basis equitable to all bidders on the production line industrialisation.</p>

6. **Future unit production costing:** These are agreed in advance of each purchase order for production units because of the supplier providing detail financial cost analysis reflecting cost variations from the initial production unit costs. The analysis must show exchange rate variation, cost and labour variations, material component cost variations, supplier overhead cost variation, and engineering change cost variations. The agreed unit price is reflected on the issued purchase order.

Design Modifications/Upgrades/Technology Improvements: These are agreed in advance on the basis of reimbursing design modifications that are a result of requirement changes from design improvements, production improvements, technical research requirements on a cost-plus basis including time, materials, and subcontracted services. The contracted bidder provides open-book costing to substantiate the cost plus basis for the modifications. Once agreed and approved, the relevant purchase order to commence work issued, for the following:

- Engineering (development) hours
- Material costs
- Subcontracted services

Pricing of Spares, Repair Materials, and Maintenance Materials: Spares, repair materials and maintenance materials throughout the duration of the contract is priced on a cost-plus basis when needed. The bidder shall declare the mark-up on materials in the bid submission documents.

Travel to SKA site in the Karoo: Travel costs are not included in the bid price. SARAO will reimburse the contracted service provider in accordance with its Travel Policy and the rates therein. The SARAO Travel Policy and the rates therein will be made available to the contracted service provider.

SBD 3.2

PRICING SCHEDULE – NON-FIRM PRICES

(PURCHASES)

NOTE: PRICE ADJUSTMENTS WILL BE ALLOWED AT THE PERIODS AND TIMES SPECIFIED IN THE BIDDING DOCUMENTS.

IN CASES WHERE DIFFERENT DELIVERY POINTS INFLUENCE THE PRICING, A SEPARATE PRICING SCHEDULE MUST BE SUBMITTED FOR EACH DELIVERY POINT

Name of Bidder	Bid number: NRF/SARAO SMRK/16/2022-23
Closing Time: 11.00AM	Closing date: 22 JULY 2022

OFFER TO BE VALID FOR 90 DAYS FROM THE CLOSING DATE OF BID.

ITEM NO.	QUANTITY	DESCRIPTION	BID PRICE IN RSA CURRENCY **(ALL APPLICABLE TAXES) NCLUD
NOTE: CARRY OVER BID PRICE TO PRICING SCHEDULE ON PAGE			

Required by:

At:

Brand and model

Country of origin

Does the offer comply with the specification(s)? *YES/NO

If not to specification, indicate deviation(s)

Period required for delivery

Delivery: *Firm/not firm

** "all applicable taxes" includes value- added tax, pay as you earn, income tax, unemployment insurance fund and skills development levies.

*Delete if not applicable

SBD 3.2

PRICE ADJUSTMENTS

NON-FIRM PRICES SUBJECT TO ESCALATION

IN CASES OF PERIOD CONTRACTS, NON-FIRM PRICES WILL BE ADJUSTED (LOADED) WITH THE ASSESSED CONTRACT PRICE ADJUSTMENTS IMPLICIT IN NON-FIRM PRICES WHEN CALCULATING THE COMPARATIVE PRICES

IN THIS CATEGORY PRICE ESCALATIONS WILL ONLY BE CONSIDERED IN TERMS OF THE FOLLOWING FORMULA:

$$Pa = (1 - V)Pt \left(D1 \frac{R1t}{R1o} + D2 \frac{R2t}{R2o} + D3 \frac{R3t}{R3o} + D4 \frac{R4t}{R4o} \right) + VPt$$

Where:

- Pa = The new escalated price to be calculated.
- (1-V)Pt = 85% of the original bid price. **Note that Pt must always be the original bid price and not an escalated price.**
- D1, D2.. = Each factor of the bid price eg. labour, transport, clothing, footwear, etc. The total of the various factors D1, D2...etc. must add up to 100%.
- R1t, R2t..... = Index figure obtained from new index (depends on the number of factors used).
- R1o, R2o = Index figure at time of bidding.
- VPt = 15% of the original bid price. This portion of the bid price remains firm i.e. it is not subject to any price escalations.

The following index/indices must be used to calculate your bid price:

Index..... Dated..... Index..... Dated..... Index..... Dated.....

Index..... Dated..... Index..... Dated..... Index..... Dated.....

FURNISH A BREAKDOWN OF YOUR PRICE IN TERMS OF ABOVE-MENTIONED FORMULA. THE TOTAL OF THE VARIOUS FACTORS MUST ADD UP TO 100%.

FACTOR (D1, D2 etc. eg. Labour, transport etc.)	PERCENTAGE OF BID PRICE

SBD 3.2

PRICES SUBJECT TO RATE OF EXCHANGE VARIATIONS

Please furnish full particulars of your financial institution, state the currencies used in the conversion of the prices of the items to South African currency, which portion of the price is subject to rate of exchange variations and the amounts remitted abroad.

PARTICULARS OF FINANCIAL INSTITUTION	ITEM NO	PRICE	CURRENCY	RATE	PORTION OF PRICE SUBJECT TO ROE	AMOUNT IN FOREIGN CURRENCY REMITTED ABROAD
				ZAR=		
				ZAR=		
				ZAR=		
				ZAR=		
				ZAR=		
				ZAR=		

Adjustments for rate of exchange variations during the contract period will be calculated by using the average monthly exchange rates as issued by your commercial bank for the periods indicated hereunder: (Proof from bank required)

AVERAGE MONTHLY EXCHANGE RATES FOR THE PERIOD:	DATE DOCUMENTATION MUST BE SUBMITTED TO THIS OFFICE	DATE FROM WHICH NEW CALCULATED PRICES WILL BECOME EFFECTIVE	DATE UNTIL WHICH NEW CALCULATED PRICE WILL BE EFFECTIVE

SBD 3.2 – PRICING SCHEDULE

Equipment and data pack prices

NO	DESCRIPTION	UNIT OF MEASURE	ESTIMATED MAN HOURS / UNITS	UNIT PRICE	TOTAL PRICE (INCL. VAT)
1	Extension of the current Line Replaceable Units (LRU) spare pool to include spare SRU unit that is not assembled into LRU's already in order to improve Meerkat maintainability	Each			
2.1	Helium Compressor Module replacement – labour	Cost per hour			
2.2	Helium Compressor Module replacement – materials	Material			
2.3	Relevant training as determined by 2.1 & 2.2	Cost per person			
3.1	2/9-Coldstar displacer characterisation unit prototype - labour	Cost per hour			
3.2	2/9-Coldstar displacer characterisation unit prototype - materials	Material			
4	Update of Meerkat software and maintenance GUI to accommodate better interface to the new S-Band systems	Cost per hour			
5.1	Repair and parts supply for existing equipment – labour	Cost per hour			
5.2	Repair and parts supply for existing equipment - materials	Material			
6	Supply chain procedures for specialized spares	Cost per hour			
7	Time and Engineering/Technical Support <ul style="list-style-type: none"> • 12 trips, 2 people per trip 	Cost per person per trip			
8	Time and Engineering/Technical Support <ul style="list-style-type: none"> • Technical Support 1800 hours. • Engineering Support 1000 hours. 	Cost per hour			

NO	DESCRIPTION	UNIT OF MEASURE	ESTIMATED MAN HOURS / UNITS	UNIT PRICE	TOTAL PRICE (INCL. VAT)
9	Calibration of RF tent equipment and verification of complete test setup.	Cost per hour			
TOTAL BID PRICE		R			

MeerKAT receiver list of parts and material required

Note: The pricing of these items will not be used for evaluation purposes.

#	Description	QTY	Part Number	Unit Price	VAT (15%)	TOTAL PRICE
Spares (See Table 3.2: List of units to add to MeerKAT spare pool, page 15Error! Bookmark not defined.)						
1	2/9 Coldstar cryocooler displacer	15	22GM-910B301A			
2	Component kits for Coldstart service	240	Meerkat Specific Parts SKA1 to SKA23			
3	Receiver System Controller (RSC)	3	EA-MK-110			
4	Helium Compressor Assembly	1	91-00018-008 M500-RT			
5	Helium Compressor Module	8	Determined by Supplier as per Task			
6	Compressor Controller	3	EA-MK-560			
7	Helium Compressor Absorber	140	80-00005-005			
8	Vacuum pump assembly	2	Pfeifer 210SDTHKM			
9	Vacuum pump mid-service kit	140	Determined by Supplier as per task			
10	Vacuum pump Major Service kit	70	Pfeifer 103911			
11	Vacuum Pump Starter (VPS)	4	EA-MK-223			
12	Scroll pump service kits	4	Agilent IDP-7			
13	Diaphragm pump service kits	4	Pfeifer MVP 070-3			
14	RF Feedthrough for receiver	20	EA-MKL-3531			

#	Description	QTY	Part Number	Unit Price	VAT (15%)	TOTAL PRICE
	output					
15	Pressure Sensor Assembly	10	EA-MKL-3519			
16	RCMU and PSU Assembly	2	EA-MKL-3300			
17	L-Band 2nd Stage RFE Assembly	3	EA-MKL-3112			
18	UHF-Band 2nd Stage RFE Assembly	3	EA-MKU-3112			
19	2/9 Coldstar coldhead	6	911B005A			
20	LNA, L-Band, HIA	8	EA-MKL-3101			
21	LNA, UHF-Band, HIA	8	EA-MKU-3101			
22	Meerkat AP Integration Receiver	1	EA-MKL-3000 version Q			

CALCULATION OF TABLES

Bidders are required to ensure that the tables in the costing listed above are **accurately calculated and that costs include VAT.**

PART C – RETURNABLE SCHEDULES

SBD 1 – INVITATION TO BID

Bid Number	NRF/SARAO SMRK/16/2022-23
Closing date and time	
SUMMARY OF BID REQUIREMENTS	
ENGINEERING SUPPORT AND MATERIAL SUPPLY FOR MAINTENANCE OF RECEIVERS AND RECEIVER SUPPORT EQUIPMENT FOR THE OPERATION OF THE MEERKAT INSTRUMENT	
Two envelope system	Yes
Price validity period from date of closure	Ninety (90) days

SUPPLIER INFORMATION

Name of Bidder			
Postal Address			
Street Address			
Telephone Number			
Code		Number	

Cell Phone Number					
Code		Number			
Facsimile Number					
Code		Number			
E-Mail Address					
VAT Registration Number					
Tax Compliance Status	Tax Compliance System PIN		OR	Central Supplier Database No.	MAAA
B-BBEE Status Level Verification Certificate		Tick Applicable Box. <input type="checkbox"/> Yes <input type="checkbox"/> No		B-BBEE Status Level Sworn Affidavit	Tick Applicable Box. <input type="checkbox"/> Yes <input type="checkbox"/> No
[A B-BBEE status level verification certificate/ sworn affidavit (for EMEs & QSEs) must be submitted in order to qualify for preference points for B-BBEE – also refer to the SBD 6.1]					
Are you the accredited representative in South Africa for the goods /services/works offered?		<input type="checkbox"/> Yes <input type="checkbox"/> No [If yes enclose proof]		Are you a foreign-based supplier for the goods/ services/ works offered?	<input type="checkbox"/> Yes <input type="checkbox"/> No [If yes, answer the questionnaire below]
Is the entity a resident of the Republic of South Africa (RSA)?					<input type="checkbox"/> Yes <input type="checkbox"/> No
Does the entity have a branch in the RSA?					<input type="checkbox"/> Yes <input type="checkbox"/> No
Does the entity have a permanent establishment in the RSA?					<input type="checkbox"/> Yes <input type="checkbox"/> No
Does the entity have any source of income in the RSA?					<input type="checkbox"/> Yes <input type="checkbox"/> No
Is the entity liable in the RSA for any form of taxation?					<input type="checkbox"/> Yes <input type="checkbox"/> No
If the answer is "No" to all of the above, then it is not a requirement to register for a tax compliance status system pin code from the South African Revenue Service (SARS) and if not registered as per 2.3 below.					

BID SUBMISSION

1.	Bids must be delivered by the stipulated time to the correct address. Late bid will not be accepted for consideration.
2.	All bids must be submitted on the officially provided forms provided – (not to be re-typed) or in the manner prescribed in the bid document.
3.	This bid is subject to the specifications and special conditions of contract pertaining to this bid, the Preferential Procurement Policy Framework Act, 2000 and the Preferential Procurement Regulations, 2017, the General Conditions of Contract (GCC), and any other legislative requirements if applicable to this bid. These are included in this document thereby forming the contract between the NRF and the appointed/awarded bidder.
4.	The successful bidder will be required to fill in and sign the contract signature form (SBD7) for this contract.

TAX COMPLIANCE REQUIREMENTS

1.	Bidder must ensure compliance with their tax obligations.
2.	Where the bidder is registered on the Central Supplier Database (CSD), a CSD number must be provided
3.	Bidders are required to submit their unique personal identification number (PIN) issued by SARS to enable the organ of state to verify the taxpayer's profile and tax status. Application for tax compliance status (TCS) pin is made via e-filing through the SARS website www.sars.gov.za .
4.	Bidders may also submit a printed TCS certificate together with the bid, available via e-filing through the SARS website www.sars.gov.za .
5.	In bids where consortia/ joint ventures/ sub-contractors are involved, each party must submit a separate TCS certificate/PIN/CSD number.
6.	No bids will be considered from persons in the service of the state, companies with directors who are persons in the service of the state, or close corporations with members' persons in the service of the state.

SBD 4 – BIDDER'S DISCLOSURE

1.	PURPOSE OF THE FORM	
1.1	<p>Any person (natural or juristic) may make an offer or offers in terms of this invitation to bid. In line with the principles of transparency, accountability, impartiality, and ethics as enshrined in the Constitution of the Republic of South Africa and further expressed in various pieces of legislation, it is required for the bidder to make this declaration in respect of the details required hereunder.</p> <p>Where a person/s are listed in the Register for Tender Defaulters and / or the List of Restricted Suppliers, that person will automatically be disqualified from the bid process.</p>	
2.	BIDDER'S DECLARATION	
2.1	Is the bidder, or any of its directors / trustees / shareholders / members / partners or any person having a controlling interest ¹ in the enterprise, employed by the State?	YES / NO
2.1.1	If so, furnish particulars of the names, individual identity numbers, and, if applicable, state employee numbers of sole proprietor/ directors / trustees / shareholders / members/ partners or any person having a controlling interest in the enterprise, in table below -	
	Full Name	Identity Number
	Name of State Institution	
2.2	Do you, or any person connected with the bidder, have a relationship with any person employed by the procuring entity?	YES / NO
2.2.1	If so, furnish particulars:	

¹ the power, by one person or a group of persons holding the majority of the equity of an enterprise, alternatively, the person/s having the deciding vote or power to influence or to direct the course and decisions of the enterprise.

2.3	Does the bidder, or any of its directors / trustees / shareholders / members / partners or any person having a controlling interest in the enterprise have any interest in any other related enterprise whether or not they are bidding for this contract?	YES / NO
2.3.1	If so, furnish particulars:	
3.	DECLARATION	
I, the undersigned, (name)..... in submitting the accompanying bid, do hereby make the following statements that I certify to be true and complete in every respect-		
3.1	I have read and understand the contents of this disclosure;	
3.2	I understand that the accompanying bid will be disqualified if this disclosure is found not to be true and complete in every respect;	
3.3	The bidder has arrived at the accompanying bid independently from, and without consultation, communication, agreement or arrangement with any competitor. However, communication between partners in a joint venture or consortium ² will not be construed as collusive bidding.	
3.4	In addition, there have been no consultations, communications, agreements or arrangements with any competitor regarding the quality, quantity, specifications, prices, including methods, factors or formulas used to calculate prices, market allocation, the intention or decision to submit or not to submit the bid, bidding with the intention not to win the bid and conditions or delivery particulars of the products or services to which this bid invitation relates.	
3.5	There have been no consultations, communications, agreements or arrangements made by the bidder with any official of the procuring institution in relation to this procurement process prior to and during the bidding process except to provide clarification on the bid submitted where so required by the institution; and the bidder was not involved in the drafting of the specifications or terms of reference for this bid.	
3.6	I am aware that, in addition and without prejudice to any other remedy provided to combat any restrictive practices related to bids and contracts, bids that are suspicious will be reported to the Competition Commission for investigation and possible imposition of administrative penalties in terms of section 59 of	

² Joint venture or Consortium means an association of persons for the purpose of combining their expertise, property, capital, efforts, skill and knowledge in an activity for the execution of a contract.

the Competition Act No 89 of 1998 and or may be reported to the National Prosecuting Authority (NPA) for criminal investigation and or may be restricted from conducting business with the public sector for a period not exceeding ten (10) years in terms of the Prevention and Combating of Corrupt Activities Act No 12 of 2004 or any other applicable legislation.

CERTIFICATION

I CERTIFY THAT THE INFORMATION FURNISHED IN PARAGRAPHS 1, 2 AND 3 ABOVE IS CORRECT.

I ACCEPT THAT THE STATE MAY REJECT MY BID OR ACT AGAINST ME IN TERMS OF PARAGRAPH 6 OF PFMA SCM INSTRUCTION 03 OF 2021/22 ON PREVENTING AND COMBATING ABUSE IN THE SUPPLY CHAIN MANAGEMENT SYSTEM SHOULD THIS DECLARATION PROVE TO BE FALSE.

.....
Date

.....
Signature

.....
Position

.....
Name of bidder

SBD 6.1 – PREFERENCE POINTS CLAIM FORM

1. GENERAL CONDITIONS

1.1. The following **preference point systems** are applicable to all bids:

1.1.1. The 80/20 system for requirements with a Rand value of up to R 50 000 000 (all applicable taxes included); and

1.1.2. The 90/10 system for requirements with a Rand value above R 50 000 000 (all applicable taxes included).

The maximum points for this bid are allocated as follows:	POINTS
PRICE	80
B-BBEE STATUS LEVEL OF CONTRIBUTION	20
TOTAL POINTS FOR PRICE AND B-BBEE MUST NOT EXCEED	100

1.2. Failure on the part of a bidder to submit proof of B-BBEE Status level of contributor together with the bid will be interpreted to mean that preference points for B-BBEE status level of contribution are not claimed.

1.3. The purchaser reserves the right to require either of a bidder, before a bid is adjudicated or at any time subsequently, to substantiate any claim concerning preferences, in any manner required by the purchaser.

1.4. A maximum of 80 or 90 points is allocated for price on the following basis:

80/20 :	$P_s = 80 \left(1 - \frac{P_t - P_{\min}}{P_{\min}} \right)$	OR	90/10 :	$P_s = 90 \left(1 - \frac{P_t - P_{\min}}{P_{\min}} \right)$
---------	---	----	---------	---

Where, P_s = Points scored for price of bid under consideration

P_t = Price of bid under consideration

P_{\min} = Price of lowest acceptable bid

1.5. Points awarded for B-BBEE status level of contributor

1.5.1. Preference points must be awarded to a bidder for attaining the B-BBEE status level of contribution in accordance with the table below:

B-BBEE Status Level of Contributor	1	2	3	4	5	6	7	8	Non-compliant contributor 0
Number of points (90/10 system)	10	9	6	5	4	3	2	1	
Number of points (80/20 system)	20	18	14	12	8	6	4	2	

2. BID DECLARATION

2.1. Bidders who claim points in respect of B-BBEE Status Level of Contribution must complete the following:

B-BBEE STATUS LEVEL	Level:
B-BBEE POINTS CLAIMED	Points

2.2. Points claimed in respect of paragraph 3 must be in accordance with the table reflected in paragraph 2 and must be substantiated by relevant proof of B-BBEE status level of contributor.

3. SUB-CONTRACTING

3.1. Will any portion of the contract be sub-contracted? (Tick applicable box)

YES		NO	
-----	--	----	--

3.2. If yes, indicate:

- 1. What percentage of the contract will be subcontracted.....%
- 2. The name of the sub-contractor.....
- 3. The B-BBEE status level of the sub-contractor.....

3.3. Whether the sub-contractor is an EME or QSE? (Tick applicable box)

YES		NO	
-----	--	----	--

4. DECLARATION WITH REGARD TO COMPANY/FIRM

4.1. Name of company/firm:

4.2. VAT registration number:

4.3. Company registration number:

4.4. Type of company/firm

- Partnership/Joint Venture /Consortium
- One person business/sole proprietor
- Close corporation
- Company
- (Pty) Limited

[TICK APPLICABLE BOX]

4.5. Describe principal business activities

.....

4.6. Company classification (Tick applicable box)

- Manufacturer
- Supplier
- Professional service provider
- Other service providers, e.g. transporter, etc.

[TICK APPLICABLE BOX]

Total number of years the company/firm has been in business:

5. Bidder declaration

I/we, the undersigned, who is / are duly authorised to do so on behalf of the company/firm, certify that the points claimed, based on the B-BBEE status level of contributor indicated in paragraphs 1 and 3 of the foregoing certificates, qualifies the company/ firm for the preference(s) shown and I / we acknowledge that:

- 5.1. The information furnished is true and correct;
- 5.2. The preference points claimed are in accordance with the General Conditions as indicated in paragraph 1 of this form;
- 5.3. In the event of a contract being awarded as a result of points claimed as shown in paragraphs 1 and 3, the contractor may be required to furnish documentary proof to the satisfaction of the purchaser that the claims are correct;
- 5.4. If the B-BBEE status level of contributor has been claimed or obtained on a fraudulent basis or any of the conditions of contract have not been fulfilled, the purchaser may, in addition to any other remedy it may have –
- a) disqualify the person from the bidding process;
 - b) recover costs, losses or damages it has incurred or suffered as a result of that person's conduct;
 - c) cancel the contract and claim any damages which it has suffered as a result of having to make less favourable arrangements due to such cancellation;
 - d) recommend that the bidder or contractor, its shareholders and directors, or only the shareholders and directors who acted on a fraudulent basis, be restricted by the National

Treasury from obtaining business from any organ of state for a period not exceeding 10 years, after the Audi alteram partem (hear the other side) rule has been applied; and

e) Forward the matter for criminal prosecution.

.....

SIGNATURE OF BIDDER

WITNESSES:

1.

2.

Reference Letter Format

Referee Legal Name:

Company:

Bid Number:

NRF/SARAO SMRK/16/2022-23

Bid Description: ENGINEERING SUPPORT AND MATERIAL SUPPLY REQUIRED FOR MAINTENANCE OF RECEIVERS AND RECEIVER SUPPORT EQUIPMENT TO ENSURE OPERATIONS OF THE MEERKAT INSTRUMENT

Describe the service and nature of the work the above bidder provided to you below

Criteria/Risks	Below requirements	Meets requirements	Exceeds requirements
Professionalism in dealing with service provider; was the service provider helpful and always available to assist			
Delivery of services – Was the service delivered timeously and satisfactorily to the specifications of the project			
Knowledge – Did the service provide show satisfactory understanding of the project and if/when challenges arouse was the service provider able to satisfactorily address these challenges.			

Criteria/Risks	Below requirements	Meets requirements	Exceeds requirements
Communication – was the service provider able to effectively communicate and undertake meetings with the relevant government departments as well as interested and affected parties during the project.			
Project management – was the service provider able to coordinate and undertake multiple processes of the project concurrently and ensure effective project management during the project			
Overall Impression:	Other comments:		
Approximate value of contract			
Would you use the provider again?			<input type="checkbox"/> YES <input type="checkbox"/> NO
Completed by:			
Signature:			
Company Name:			
Reference project location:			
Contact Telephone Number:			
Date:			

SBD 1 – BID SIGNATURE

I, the bidder, warrant by signature as having read and accepted each page in this document including any annexures attached to this document. I undertake to supply all or any of the goods, works, and services described in this procurement invitation to SARAO in accordance with the requirements and specifications stipulated in this bid document at the price/s quoted. I confirm that I have satisfied myself as to the correctness and validity of my offer/bid in response to this invitation, covering all my obligations and I accept that any mistakes regarding price(s), rate(s), and calculations are at my own risk. My offer remains binding upon me and open for acceptance by SARAO during the validity period indicated and calculated from the closing time of bid invitation. I accept full responsibility for the proper execution and fulfilment of all obligations and conditions devolving on me in terms of this document as the principal liable for the due fulfilment of the subsequent contract conditions if awarded to me.

I declare that during the bidding period did not have access to any SARAO proprietary information or any other matter that may have unfairly placed our bid in a preferential position in relation to any of the other bidder(s).

I confirm that I am duly authorised to sign this offer/ bid response.

Signature of bidder:	
NAME (PRINT)	
Capacity under which this bid is signed (Proof of authority must be submitted e.g. company resolution)	