

REQUEST FOR QUOTATIONS

GOODS	
SERVICES	X

DESCRIPTION:	PROVISION OF TRADE-OFF STUDY OF COMPUTER COOLING SYSTEM FOR SARAO DATA CENTRE		
RFQ NUMBER:	SARAO RFQ PEP6 002 2020		
CLOSING DATE AND TIME:	10 September 2020 at 11.00AM		
BIDS SUBMITTED TO:	anwuli@ska.ac.za		
PREFERENCE SYSTEM:	POINTS	80/20	
DELIVERY INFORMATION - N/A			
Bidding procedures enquiries may be directed to:		Technical information enquiries may be directed to:	
Section	Supply Chain Management	Section	Computing Infrastructure
Contact person	Anwuli Okecha	Contact person	Jeremy Main
E- Mail address	anwuli@ska.ac.za	E- Mail address	jmain@ska.ac.za
Telephone	021 506 7300	Telephone	021 506 7300
Note: Due to restrictions imposed by the National Lockdown, and our own internal safety measures, SARAO staff primarily work remotely, and therefore any enquiries relating to this Request for Quotations must be directed to the email addresses provided above			

SUPPLIER INFORMATION – SBD 1

Name of Bidder Name:					
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		O R	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).					

1. INTRODUCTION TO SARAO

The South African Radio Astronomy Observatory (SARAO), a facility of the National Research Foundation, is responsible for managing all radio astronomy initiatives and facilities in South Africa, including the MeerKAT Radio Telescope in the Karoo, and the Geodesy and VLBI activities at the HartRAO facility. SARAO also coordinates the African Very Long Baseline Interferometry Network (AVN) for the eight SKA partner countries in Africa, as well as South Africa's contribution to the infrastructure and engineering for the Square Kilometre Array (SKA) Radio Telescope. Information about the organisation is available on our website, <http://www.sarao.ac.za>.

SARAO operates at 4 different locations, with 13 divisions that cover scientific research, engineering and business operations, communications, commercialization and large-scale human capital development programs. SARAO is ISO9001 accredited.

2. BACKGROUND ON SPC FACILITY

The MID SKA telescope Science Processing Centre (SPC) is a bespoke data centre facility in early design phase that will host the SKAO's (Square Kilometre Array Observatory) SKA1-MID telescope Science Data Processor (SDP) and the South African SKA Regional Centre (ZA_SRC) in Cape Town, South Africa. In addition, the combined facility is also expected to host a future cluster of the Centre for High Performance Computing (CHPC) of the Council for Scientific and Industrial Research (CSIR).

The facility shall provide all the required infrastructure to support the high-performance computing (HPC) equipment in the data centre including cooling. This facility shall be located adjacent to the existing iThemba LABS facility in Cape Town, South Africa with the satellite view as illustrated in Figure 1 below and following coordinates:

- Latitude: -34.0245181°
- Longitude: 18.7212582°
- Altitude: 15 m

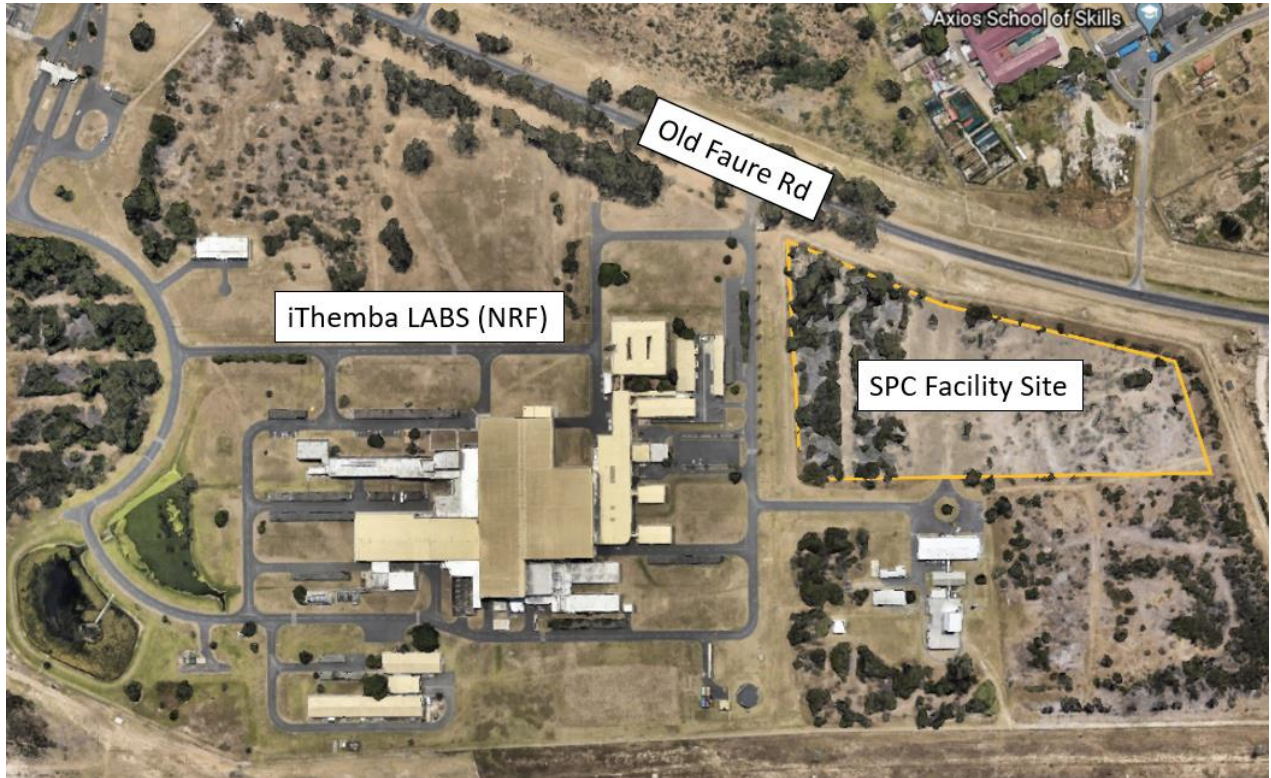


Figure 1: Satellite View showing Proposed MID SPC Facility Site in yellow outline

3. SPC FACILITY COOLING SYSTEM SPECIFICATION

SARAO is seeking bidders for professional services to perform a trade-off study of the facility cooling system (FCS) applicable to the SPC.

In this section the FCS (Facility Cooling System) boundary is clarified along with driving system requirements applicable to the FCS at a concept development stage. Furthermore, the evaluation of the design concept evaluation method along with the scope of work is clarified.

The output from this trade-off study will form part of a larger Concept Design Review, of the entire SPC system, and thus plays a critical role in steering the forthcoming detail design phase in the right direction.

3.1 INTERFACE SPECIFICATION

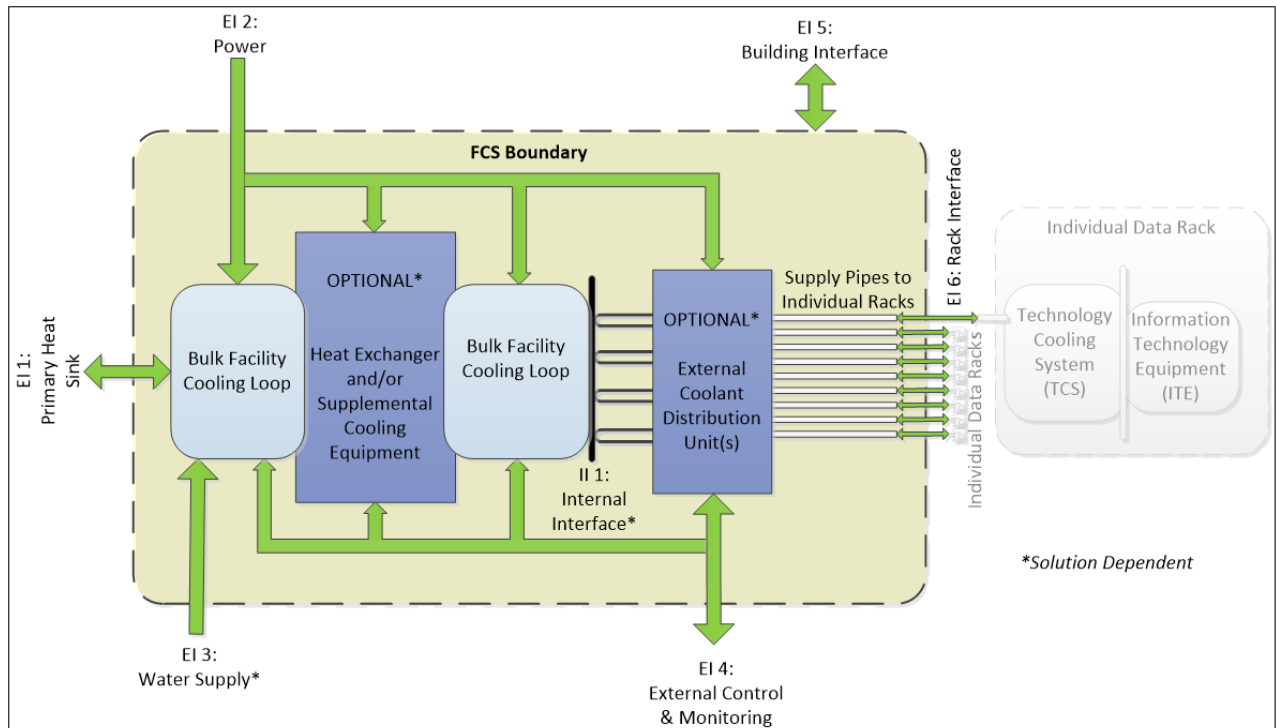


Figure 2: FCS Boundary and Interface

3.1.1. Facility Cooling System (FCS) Boundary & Interfaces

The FCS boundary is defined in Figure 2 above. It is important to note that, in the context of the trade-off study, the FCS encompasses the distribution of coolant up to the individual rack interface. Certain elements are marked as optional to not infer or preclude any specific design options.

3.1.2. Definition of Interfaces

With reference to Figure 2 above the external interfaces are identified and briefly described below:

3.1.2.1. EI 1: Primary Heat Sink

This interface describes the interaction of the bulk cooling loop with an external heat sink which could either be natural (e.g. free air, water body) or manmade (e.g. waste heat recovery system). The utilisation of multiple heat sinks is not precluded per se.

3.1.2.2. EI 2: Power

An interface to the facility's electrical power system is required to provide power to the FCS components such as pumps, actuators, control circuits or any supplemental cooling equipment as required.

3.1.2.3. EI 3: Water Supply

Depending on the design option, the bulk facility cooling loop may be required to be connected to a water supply source. Careful consideration needs to be placed on longer term availability of water in the area.

3.1.2.4. EI 4: External Control and Monitoring

Any critical sensors will interface to the higher level SPC Building Management System (BMS).

3.1.2.5. EI 5: Building Interface

This is the physical interface to the building which will be further developed during the detailed design phase.

3.1.2.6. EI 6: Rack Interface

The FCS interfaces to each rack individually in the form of ingress/egress pipes fed from above. Please see Figure 3 depicting the concept for the services layout relative to the rack. Note that the rack area will likely not be actively cooled but will rely on ambient air circulation as further described in Section 3.3.3 below.

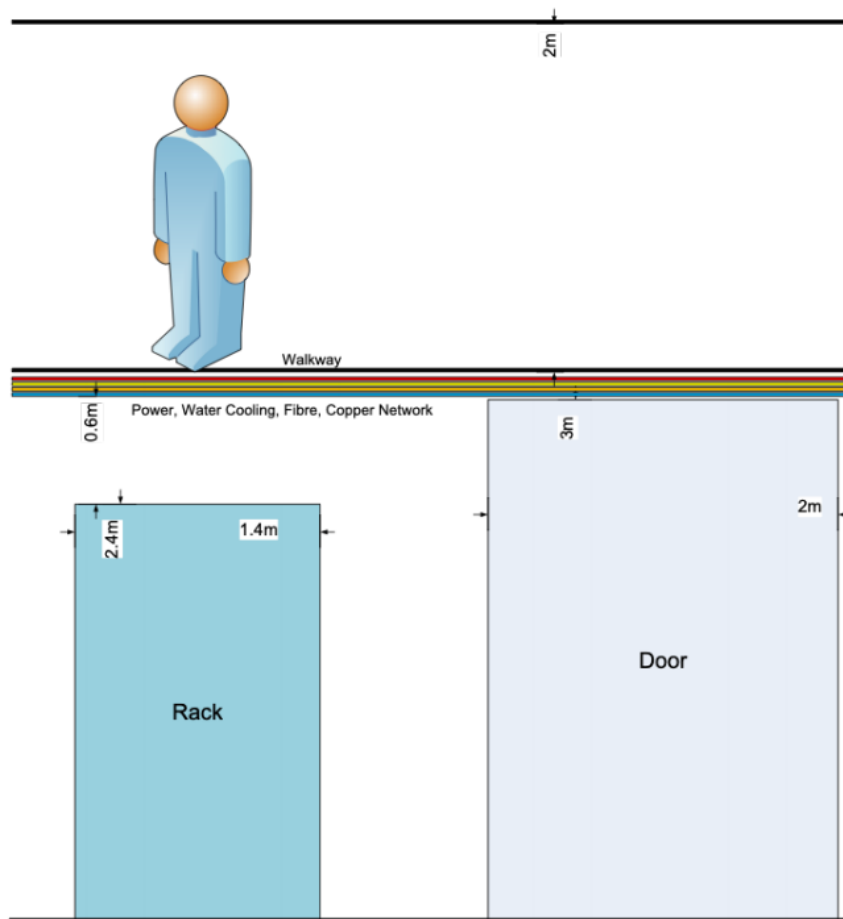


Figure 3: Concept Rack and Services Layout (side view)

3.1.2.7.II1: Internal Interface

With reference to Figure 2 above this internal interface is highlighted as it is deemed an important handover point. Due to the uncertainty around the external interface EI 6, and final rack layout, delivery of the FCS will likely occur in 2 phases:

1. Delivery of the bulk system (left of II 1) early, as part of the facility construction.
2. Delivery of the reticulation system (right of II 1) later, when the rack configuration and per-rack loading has been finalised.

3.2. SPC DRIVING REQUIREMENTS

The SPC has been conceptualized to have the driving requirements which are derived from the higher level SPC requirement specification document. The requirements are considered to have a significant impact on the overall design solution of the FCS. The bidder shall thus illustrate the capabilities to conduct the study to meet these requirements and they are as follows:

3.2.1. Power Usage Effectiveness (PUE)

The facility shall operate at a PUE of 1.05 or less.

Broadly the PUE is considered as follows:

$$PUE = \frac{\text{Total Facility Energy}}{\text{IT Equipment Energy}}$$

The FCS is considered the major driver for PUE, while it is acknowledged that it is not the sole determinant of PUE. A detailed breakdown of non ITE (Information Technology Equipment) energy (e.g. cooling, lighting etc.) usage does not currently exist. It is expected that the output of this trade-off study will be used to develop this in detail.

It should further be noted that a PUE of **1.05** is considered a target figure and is reliant on the output of this trade-off study for further validation.

3.2.2. Heat Load

The FCS shall be capable of adequately removing heat from the Information Technology Equipment (ITE) under peak conditions as stipulated in below.

Table 1: SPC Heat Load

Subsystem	Peak Heat Load (MW)
SDP	2.8
SRC	0.3
CHPC	3.0
Total	6.1

3.3. ASSUMPTIONS

The following aspects are not formal system requirements but are deemed to be notable influencing factors on a concept design level of the FCS.

3.3.1. Indicative Rack Power Densities

The expected power density of each subsystem is shown in Table 2 in the column titled “Heat Load per Rack”.

In addition to the expected power densities it is further required to study the feasibility of the FCS supporting rack densities up to 200 kW and to advise if any discreet (or step) change will be brought about in handling this increased rack density.

Table 2: Power Densities

Subsystem	Heat Load per Rack (kW)	Feasibility up to (kW)
SDP	40 to 60	200
SRC	10	N/A
CHPC	40 to 60	200

3.3.2. Rack Interface

It is assumed that the FCS interface to the rack will be as stated in EI 6 above and furthermore that it will be identical for all data racks in the data rack area (SDP, SRC & CHPC).

3.3.3. Rack Area Ambient Temperature

The rack area is not considered a maintenance working area. A separate staging area, with air-conditioning, is allocated where personnel will be performing most of the maintenance and service. As such the rack area may be at less friendly environmental conditions. Considering power usage, the rack area will likely be cooled by exchange of ambient air.

4. BID REQUIREMENTS

SARAO requires a skilled and experienced bidder to perform a trade-off study on the following option space for the Facility Cooling System of the SPC. At least the following aspects shall be considered, and formulated as design options, as part of the trade-off study:

4.1. Compulsory Options

- A. Rack Ingress Temperature:
 - i. Hot water (> ~45°C*)

- ii. Warm water (~40°C*)
- iii. Chilled water (~16°C*)
- iv. Any Alternative temperatures if sensible

**The temperatures are indicative only and is required to be refined as part of the trade-off study*

- B. Bulk facility cooling equipment (e.g. dry cooling, evaporative cooling towers, chiller plants)
- C. Primary heat sink (e.g. free air, geothermal, ocean/other water bodies, waste heat recovery system)
- D. Options for a coolant distribution system between the internal interface (II 1) and the rack interface (EI 6) as shown in Figure 2 above (If there are multiple options, identify the options and recommend the best option).

It is envisaged that the options space can be narrowed down at an early stage following iterative consultation with SARAO and that only a small number of design options will require further development and evaluation.

4.2. Other considerations

Feedback on the following aspect(s) is required:

1. The suitability of water as a coolant in each of the Facility Cooling System’s cooling loops. Alternative substances should be recommended where applicable.

4.3. Selection Criteria (Value System)

The selection criteria to be used to evaluate each qualifying design option are in Table 3. A rough weighting is applied to each metric for now. As part of the trade-off study, a more refined value system will be required to be developed by the successful bidder and SARAO.

Table 3: Selection Criteria

Criteria	Weight
Total cost of ownership (TCO). <ul style="list-style-type: none"> ● Including power consumption of cooling system - PUE ● Including water consumption (if applicable) 	high
Technical risk (considering local construction capability), which may translate to schedule slip. <ul style="list-style-type: none"> ● Technology readiness (sample sites & local industry capabilities) 	high
Environmental impact <ul style="list-style-type: none"> ● Waste Heat Reuse/Recovery ● Physical space requirements ● Noise 	medium
Reliability, availability, serviceability	medium

5. RFQ OUTPUTS

Please note: A confidentiality agreement will be signed by all parties upon acceptance of the quotation by SARAO.

It is very important that the design options being considered for trade-off remains constrained to:

- i. The SPC FCS Specification boundary as defined in section 3.1 above.
- ii. The BID requirements as defined in section 4.

It should be noted that the focus of this trade-off study is on the Facility Cooling System (FCS) and not the Technology Cooling System (TCS).

5.1 TERMS OF REFERENCE

The terms of reference of the service contract is as follows.

- a. **Receive formal confirmation of order.**
- b. **Perform Trade off study:**
 - i. Kick-off meeting to clarify scope and goals of the study.
 - ii. Identify a small number of **design options** (iterate with SKAO/SARAO) that meet the options space requirements as stipulated in Section 4.1 and 4.2 above.
 - iii. Define a refined **value system** for the trade-off against the selection criteria as stipulated in Section 4.3 above.
 - iv. Evaluate the design options using the value system.
 - v. Identify one recommended option with motivation for the bulk supply (left side of internal interface as shown in Figure 2).
 - vi. Identify one recommended option with motivation for the coolant distribution system to individual racks (right side of internal interface as shown in Figure 2).
- c. **Review the trade-off with SARAO/SKAO.**
- d. **Update the report based on the review and publish report.**

5.2 REPORT DELIVERABLES

The signed report in a pdf and Microsoft word format, design drawings in AutoCAD, etc shall be delivered by the successful bidder. The content of the report shall include the following:

- i. Definition of all the options that were considered
- ii. Definition of the value system used for the selection
- iii. Evaluation of each of the shortlisted options in terms of the value system (TCO, risk, etc.)
- iv. Description of the selected option design.

- v. Interface definition for EI6: (incl. coolant temperature, temperature differential, pressure differential and flow rates)
- vi. All applicable drawings

The timeframe for completion of the project is 2.5 months from the date of contract commencement.

PRE-QUALIFICATION ELIGIBILITY CRITERIA	
Where indicated as applicable below, only bidders who meet the pre-qualification criteria specified may respond to this RFQ. Failure to comply with the pre-qualification criteria set will result in an automatic disqualification.	
BBBEE Status Level of Contributor	
Minimum B-BBEE status level required:	N/A
EMEs or QSEs	
EME / QSE:	N/A

EVALUATION PROCESS		
The RFQ will be evaluated in the following three phases:		
Phase 1:	Administrative compliance / submission of all returnable documents and completion of all returnable schedules	
Phase 2:	Compliance with functionality criteria	
Phase 3:	Price and BBBEE Status Level Scoring	
Phase 1 – Administrative Compliance		
All returnable documents marked mandatory ('M'), must be completed or submitted by service providers in order to proceed to be evaluated further in Phase 2.		
Returnable Document/ Schedule	Page Reference	Mandatory (M) / Optional (O)
Signed SBD 1 form	Page 2, 21	M
Signed and completed SBD 3.2 form (pricing schedule)	Page 13	M

Signed and completed SBD 4 form	Page 15-16	M (if bid exceeds R30 000)
Signed and completed SBD 6.1 form	Page 16-19	M (if bid exceeds R30 000)
Signed and completed SBD 8 form	Page 19	M (if bid exceeds R30 000)
Signed and completed SBD 9 form	Page 20-21	M (if bid exceeds R30 000)
BBBEE certificate, or sworn affidavit detailing annual turnover, in the case of EMEs and QSEs	n/a	O (preference points will not be allocated if not submitted)

Phase 2 – Functionality Criteria

Bidders must meet the mandatory functionality requirements listed below. Bidders that fail to achieve a “GO” for each functionality requirement will not be considered for further evaluation.

No.	Functionality requirement	Evidence required / How this will be evaluated	GO / NO GO
1.	Shall have demonstrated knowledge of the application of data centre liquid cooling systems	Bidder’s company portfolio showing evidence of relevant experience in designing data centre liquid cooling solutions	
		At least two reference letters from companies for whom the bidder has done liquid cooling system design work indicating capability and experience and customer satisfaction.	

Phase 3 – Price and BBBEE Status Level Scoring

The RFQ will be evaluated on the 80/20 preference points system.

PRICING SCHEDULE – SERVICES (SBD 3.2)

NOTE: ONLY FIRM PRICES WILL BE ACCEPTED. NON-FIRM PRICES (INCLUDING PRICES SUBJECT TO RATES OF EXCHANGE VARIATIONS) WILL NOT BE CONSIDERED

OFFER TO BE VALID FOR 60 DAYS FROM THE CLOSING DATE OF BID.

Respondents are requested to complete the pricing schedule below in response to this Scope of Work. If the respondent feels there are any additional items that should be priced but were not included as part of the original scope of work, please include them in a separate pricing schedule.

The successful bidder must submit an invoice together with timesheets for work done on a monthly basis, or at such intervals as agreed upon with SARAO. The SARAO contract manager will review timesheets submitted, certify that services have been provided as claimed, and approve for payment.

No.	Description	Estimated man hours	Rate per hour	Total amount
1.	Initial knowledge transfer / Kick off meeting with SARAO	4		
2.	Feasibility study into design option space	Lump sum	Lump sum	
3.	Mid-review feedback meeting 1	4		
4.	Mid-review feedback meeting 2	4		
5.	Conceptual design review meeting	4		
6.	Trade-off, evaluation and design	Lump sum	Lump sum	
7.	Report generation and submission	Lump sum	Lump sum	
Sub-total			R	
VAT (15%)			R	
Total price			R	

A detailed quotation must also be submitted that corresponds to the above pricing schedule.

PERFORMANCE MONITORING

- (i) The contracted bidder recognises that failure to meet the performance levels of this contract will have a material adverse impact on the operations of SARAO and that the damage from the contracted bidder's failure to meet any performance level is not susceptible to any precise determination.

- (ii) SARAO excuses the contracted bidder from failing to comply with the performance levels to the extent that non-performance or delayed performance is solely and directly attributable to an act or omission of SARAO or its staff, or circumstances of force majeure referred to in this agreement.
- (iii) Both parties are responsible for monitoring and measuring the performance of the contracted bidder against the performance levels set on this document. SARAO deems failure by the contracted bidder to measure performance with respect to the contract specifications for any measurement period as a failure to meet the stipulated performance levels, and -
 - (a) the contracted bidder shall investigate and report on the root causes of the performance level failure;
 - (b) promptly correct the failure and begin meeting the set performance levels;
 - (c) advise SARAO as and to the extent requested by SARAO of the status of the remedial efforts being undertaken with respect to such performance level failure; and
 - (d) take appropriate preventative measures to prevent the recurrence of the performance level failure.

BIDDING CONDITIONS

The following conditions will apply to this request for quotations:

- (i) Price(s) quoted must be valid for at least sixty (60) days from date of your offer.
- (ii) Price(s) quoted must be firm and must be inclusive of VAT.
- (iii) Bidder must submit their original or certified BBBEE certificates, or sworn affidavits in the case of EMEs or QSEs, should they wish to claim BBBEE points, failing which zero points will be allocated for BBBEE. However, where pre-qualification on the basis of BBBEE status level applies, failure to submit a BBBEE certificate or sworn affidavit will result in automatic disqualification of the RFQ submission.
- (iv) **No award will be made to a service provider who is not registered on CSD.** To register <https://secure.csd.gov.za/>.
- (v) Quotations over a value of R 30 000.00 (VAT included) must be accompanied by the relevant SBD documentation for Quotations duly completed, and the enclosed Declaration of interest (SBD 4), Declaration, preference points claim form in terms of the preferential Procurement regulations 2017 (SBD 6.1), Declaration of Bidder's Past Supply Chain Management Practices (SBD8), Certificate of Independent Bid Determination (SBD9).
- (vi) The successful provider will be the one scoring the highest points in the event of the lowest bid being higher than R30 000.00.
- (vii) Late or faxed quotations will not be considered. SARAO reserves the right to withdraw any invitation to quote and/or to re-advertise or to accept a part of it. SARAO does not bind itself to accepting the lowest quotation.
- (viii) This request for quotations is subject to the Preferential Procurement Policy Framework Act, 2000, the Preferential Procurement Regulations, 2017, the National Treasury general conditions of contract (GCC) and, if applicable, any other special conditions of contract.

SBD 4 - DECLARATION OF INTEREST WITH GOVERNMENT

Any legal person, including persons employed by the State (meaning any national or provincial department; national or provincial public entity; or constitutional institution within the meaning of the Public Finance Management Act, 1999 (Act No. 1 of 1999); any municipality or municipal entity; provincial legislature; National Assembly or the National Council of Provinces; or National Parliament), or persons having a kinship with persons employed by the State, including a blood relationship, may make an offer or offers in terms of this invitation to Bid (includes an advertised competitive Bid, a limited Bid, a proposal or written price quotation). In view of possible allegations of favouritism, should the resulting Bid, or part thereof, be awarded to persons employed by the State, or to persons connected with or related to them, it is required that the Bidder or his/her authorised representative, declare his/her position in relation to the evaluating/adjudicating authority where:

- a. The Bidder is employed by the State; and/or
- b. The legal person on whose behalf the Bidding Document is signed, has a relationship with persons/s person who is/are involved in the evaluation and or adjudication of the Bid(s), or where it is known that such a relationship exists between the person or persons for or on whose behalf the declarant acts and persons who are involved with the evaluation and/or adjudication of the Bid.

In order to give effect to the above, the following questionnaire must be completed and submitted with this Bid:

Full Name of Bidder or his/her representative:

Identity Number:

Position occupied in the Company (director, trustee, shareholder, member):

Registration number of company, enterprise, close corporation, partnership agreement:

Tax Reference Number:

VAT Registration Number:

The names of all directors/trustees/shareholders/members, their individual identity numbers, tax reference numbers and, if applicable, employee/PERSAL numbers must be indicated in a separate schedule including the following questions:

Schedule attached with the above details for all directors/members/shareholders

Are you or any person connected with the Bidder presently employed by the State? If so, furnish the following particulars in an attached schedule

Yes No

Name of person/ director/ trustee/ shareholder/member:

Name of State institution at which you or the person connected to the Bidder is employed

Position occupied in the State institution	
Any other particulars:	
If you are presently employed by the State, did you obtain the appropriate authority to undertake remunerative work outside employment in the public sector?	<input type="checkbox"/> Yes <input type="checkbox"/> No
If Yes, did you attach proof of such authority to the Bid document?	
If No, furnish reasons for non-submission of such proof as an attached schedule	
(Note: Failure to submit proof of such authority, where applicable, may result in the disqualification of the Bid.)	
Did you or your spouse or any of the company's directors/ trustees /shareholders /members or their spouses conduct business with the State including any business units of the National Research Foundation in the previous twelve months?	<input type="checkbox"/> Yes <input type="checkbox"/> No
If so, furnish particulars as an attached schedule	
Do you, or any person connected with the Bidder, have any relationship (family, friend, other) with a person employed by the State and who may be involved with the evaluation and or adjudication of this Bid?	<input type="checkbox"/> Yes <input type="checkbox"/> No
If so, furnish particulars as an attached schedule	
Do you or any of the directors/ trustees/ shareholders/ members of the company have any interest in any other related companies whether or not they are bidding for this contract?	<input type="checkbox"/> Yes <input type="checkbox"/> No
If so, furnish particulars as an attached schedule	

SBD 6.1 - PREFERENCE POINTS CLAIMED	
NB: Before completing this form, bidders must study the general conditions, definitions, and directives applicable in respect of B-BBEE, as prescribed in the Preferential Procurement Regulations, 2017.	
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)	
1.1.3 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 :	$P_s = 80 \left(1 - \frac{P_t - P_{\min}}{P_{\min}} \right)$	O R	90/10 :	$P_s = 90 \left(1 - \frac{P_t - P_{\min}}{P_{\min}} \right)$
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Where Ps = Points scored for price of bid under consideration
 Pt = Price of bid under consideration
 Pmin = Price of lowest acceptable bid

- 1.5 Points awarded for B-BBEE status level of contributor
- 1.5.1 In terms of Regulation 6 (2) and 7 (2) of the Preferential Procurement Regulations, 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	<input type="checkbox"/>	NO	<input type="checkbox"/>
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- 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	<input type="checkbox"/>	NO	<input type="checkbox"/>
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- 3.4 Specify, by ticking the appropriate box, if subcontracting with an enterprise in terms of Preferential Procurement Regulations, 2017:

Designated Group: An EME or QSE which is at last 51% owned by:	EME <input checked="" type="checkbox"/>	QSE <input checked="" type="checkbox"/>
Black people		
Black people who are youth		
Black people who are women		
Black people with disabilities		
Black people living in rural or underdeveloped areas or townships		
Cooperative owned by black people		
Black people who are military veterans		
OR		
Any EME		
Any QSE		

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 (Tick applicable box)

TYPE	Tick applicable box
Partnership/Joint Venture /Consortium	
One person business/sole proprietor	
Close corporation	
Company	
(Pty) Limited	

4.5 Describe principal business activities

.....

.....

.....

.....

.....

4.6 Company classification (Tick applicable box)

TYPE	Tick applicable box
Manufacturer	
Supplier	
Professional service provider	
Other service providers, e.g. transporter, etc.	

4.7 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 certificate, qualifies the company/ firm for the preference(s) shown and I / we acknowledge that:

1. The information furnished is true and correct;
2. The preference points claimed are in accordance with the General Conditions as indicated in paragraph 1 of this form;
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;
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.

SBD 8 - DECLARATION OF BIDDER'S PAST SCM PRACTICES

Is the Bidder or any of its directors listed on the National Treasury's Database of Restricted Suppliers as companies or persons prohibited from doing business with the public sector? If Yes, furnish particulars as an attached schedule:	<input type="checkbox"/> Yes <input type="checkbox"/> No
Is the Bidder or any of its directors listed on the Register for Tender Defaulters in terms of Section 29 of the Prevention and Combating of Corrupt Activities Act (No 12 of 2004)? If Yes, furnish particulars as an attached schedule:	<input type="checkbox"/> Yes <input type="checkbox"/> No
Was the Bidder or any of its directors convicted by a court of law (including a court outside of the Republic of South Africa) for fraud or corruption during the past five years? If Yes, furnish particulars as an attached schedule:	<input type="checkbox"/> Yes <input type="checkbox"/> No
Was any contract between the Bidder and any NRF terminated during the past five years because of failure to perform on or comply with the contract? If Yes, furnish particulars as an attached schedule:	<input type="checkbox"/> Yes <input type="checkbox"/> No

The Database of Restricted Suppliers and Register for Tender Defaulters resides on the National Treasury's website (www.treasury.gov.za) and can be accessed by clicking on its link at the bottom of the home page.

SBD 9: CERTIFICATE OF INDEPENDENT BID DETERMINATION

I, the signatory to this document, in submitting this Bid in response to the invitation for the Bid made by the National Research Foundation, do hereby make the following statements that I certify to be true and complete in every respect:

I have read and I understand the contents of this Certificate;

I understand that the Bid will be disqualified if this Certificate is found not to be true and complete in every respect;

I am authorised by the Bidder to sign this Certificate, and to submit the Bid, on behalf of the Bidder;

Each person whose signature appears on the Bid has been authorised by the Bidder to determine the terms of, and to sign, the Bid on behalf of the Bidder;

For the purposes of this Certificate and the accompanying Bid, I understand that the word "competitor" shall include any individual or organisation, other than the Bidder, whether or not affiliated with the Bidder, who:

- a. Has been requested to submit a Bid in response to this Bid invitation;
- b. Could potentially submit a Bid in response to this Bid invitation, based on their qualifications, abilities or experience; and
- c. Provides the same goods and services as the Bidder and/or is in the same line of business as the Bidder

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 (meaning an association of persons for combining their expertise, property, capital, efforts, skill, and knowledge in an activity for the execution of the bid) will not be construed as collusive bidding.

In particular, without limiting the generality of paragraphs above, there has been no consultation, communication, agreement or arrangement with any competitor regarding:

- a. Prices;
- b. Geographical area where product or service will be rendered (market allocation);
- c. Methods, factors or formulas used to calculate prices;
- d. The intention or decision to submit or not to submit, a Bid;
- e. The submission of a Bid which does not meet the specifications and conditions of the Bid;
or
- f. Bidding with the intention not to win the Bid.

In addition, there have been no consultations, communications, agreements, or arrangements with any competitor regarding the quality, quantity, specifications and conditions or delivery particulars of the products or services to which this Bid invitation relates.

The terms of this Bid have not been, and will not be, disclosed by the Bidder, directly or indirectly, to any competitor, prior to the date and time of the official Bid opening or of the awarding the bid or to the signing of the contract.

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 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

*Please refer to SARAO's website for the National Treasury's general conditions of contract

<http://www.SARAO.ac.za/tenders/procurement-documents>

BID SIGNATURE (SBD 1)

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 NRF Corporate 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 NRF Corporate 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 I did not have access to any NRF 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.

NB: Failure to provide / or comply with any of the above particulars may render the bid invalid.

Signature of bidder: