



NATIONAL LIBRARY OF SOUTH AFRICA

228 Johannes Ramakhoase Street
Private Bag X397
Pretoria
0001

5 Queen Victoria Street
Cape Town
8001

TERMS OF REFERENCE FOR HVAC SYSTEM

CLOSING DATE: 12 June 2024

TIME: 11:00

NB. Note that Saturday will be treated as a normal working day. Should you want to submit a quotation, please email it to: Quotations@nlsa.ac.za

1 BACKGROUND

- 1.1** The National Library of South Africa hereafter referred to as NLSA, is a world-class African National Library and Information Hub. The NLSA is responsible for collecting, recording, preserving, and making available the national documentary heritage of South Africa. The NLSA promotes awareness, appreciation, and access to published documents, nationally and internationally and in doing so contributes to the development and prosperity of South Africa. The NLSA has Campuses in Pretoria and Cape Town.
- 1.2** The National Library of South Africa in its efforts to minimise unplanned interruptions and downtime on the HVAC System; seeks to appoint an experienced service provider for six months to conduct routine preventative maintenance and corrective maintenance (as and when required) at its Pretoria Campus located at 228 Johannes Ramakhoase

2 SCOPE OF WORK

The scope of work includes minor and major routine services as well as corrective maintenance (as and when required) for a period of SIX (6) months. The scope of work below applies.

Chillers and Reciprocating Units

2.1 EQUIPMENT LIST

3x Chillers
9x Compressors
20x Pumps
3x Cooling Towers
1x Water Tank

2.2 DETAILED SCOPE

2.2.1 FIVE Minor Services

This applies to Chillers, Compressors, Pumps, Tanks, and Electric Motors

- i. Conduct visual inspections (monthly)
- ii. Review of operational characteristics and history logs
- iii. Ensure, by way of inspecting and testing that there is efficient functioning of all relevant components
- iv. Provide a detailed report of all work conducted on completion of each service – see below

2.2.2 ONE Major Service

A. CHILLERS AND COMPRESSORS

- i. Review of operational characteristics and history whereby all the tests, checks, calibrations, observations, adjustments, settings, oil changes, filters, inspections, (not an exhaustive list) is captured in a report and presented on completion of the service – see below
- ii. Testing and inspection
- iii. Start the unit and observe the operation
- iv. Check compressor for proper operation
- v. Check discharge and suction gas pressure
- vi. Check controls for proper operation
- vii. Setpoint point and control adjustments
- viii. Check unit for noise and vibration
- ix. Instrument calibrations
- x. Refrigerant and oil removal and charging
- xi. Processing of spent fluids or gasses off-site
- xii. Refrigerant leak testing
- xiii. Observe and verify purge control and operation
- xiv. Replace Oil / Refrigerant analysis
- xv. Verification of safeties
- xvi. Unit shut down and startup as necessary with NLSA approval – notice to be provided in advance
- xvii. Descaling condenser tube with a nylon brush, if necessary
- xviii. Inspect gasket and look for leaks

- xix. Check and record chiller & condenser water pressure for any blockages
- xx. Check the oil pressure of the compressor
- xxi. Check piping and valves for leaks
- xxii. Check for corrosion

B. PUMPS

- i. Check that mounting points are secure
- ii. Inspect the mechanical seal and packing
- iii. Inspect the pump flanges for leaks
- iv. Inspect the couplings
- v. Inspect and clean and where required, replace filters
- vi. Lubricate the motor and pump bearing per manufacturer's guidelines

Be sure not to over-lubricate. More bearing damage occurs as a result of over greasing than under greasing. If the bearing has a vent cap, remove the cap and run the pump for 30 minutes before reinstalling the cap. This will allow excess grease to work its way out of the bearing.

C. ELECTRICAL/MOTOR INSPECTION

- i. Check that all terminations are tight
- ii. Inspect motor vents and windings for dust/dirt build-up and clean according to manufacturer's guidelines
- iii. Inspect starter/contractor for arcing, overheating, etc.
- iv. Use a megohmmeter on the windings to check for insulation failure
- v. **REPLACE DAMAGED SEALS AND HOSES**
- vi. If any hoses, seals, or O-rings show wear or damage, replace them immediately.
- vii. Prepare and submit a report for all the work completed on electrical motors and their connections – see below

AIR HANDLING AND RECIPROCATING UNITS

2.3 EQUIPMENT LIST

15x Split Units
3x Air handling units
14x DB-AIRE
18x Extractor Fans
155x FCU's

2.4 DETAILED SCOPE

2.4.1 FIVE Minor Services

- v. Clean and replace where required filters and diffusers
- vi. Do diagnosis to identify problems (if necessary)
- vii. Provide a detailed report of work completed after each service – see below

2.4.2 ONE Major Service

- xxiii. Check gas level and refill if necessary
- xxiv. Pressure switches
- xxv. Clean the filters and diffusers.
- xxvi. Replacement of filters if necessary
- xxvii. Do pressure checks
- xxviii. Do diagnosis to identify problems
- xxix. Condenser Coil – Clean as required
- xxx. Refrigerant Charge - Check by superheat/subcooling method (Thermo-charging)
- xxxi. Controls & Safeties - Inspect & test
- xxxii. Relays & Contactors - Inspect & clean
- xxxiii. Crankcase Heater - Operationally inspect
- xxxiv. Unit Wiring - Inspect & loose connections tighten
- xxxv. Temperature & Pressures - record
- xxxvi. Capacitors – Test
- xxxvii. Unit Disconnect – Test
- xxxviii. Lubrication - Application to motors & bearings
- xxxix. Belts & Pulleys - Inspect & adjust
 - xl. Condensate Drain - Check to assure it is open
 - xli. Voltage & Amps – for blower motor, compressor & condenser fan motor check & record
 - xl.ii. Thermostat - Check & calibrate
 - xl.iii. Motors - Clean & inspect

All the work carried out in the routine services must be recorded in reports with the test results on a Routine Maintenance Sheet; signed off by the Client's representative, a copy is then left at the premises.

For all corrective and additional work (not quoted upfront); a separate quote based on the agreed rates in section 7.2 is to be provided by the service provider and approved by the Client before the work takes place.

3 NLSA'S RIGHTS

The NLSA is entitled to amend any condition of this RFQ, the validity period, terms of reference, or extend the RFQ's closing date, all before the closing date. All Bidders, to whom the quotation documents have been issued, and where the NLSA has a record of such Bidders, may be advised in writing of such amendments in good time and such changes will also be posted on the NLSA's website under the relevant Bid information. All prospective Bidders must, therefore ensure, that they visit the NLSA website regularly to check that they are updated on any amendments in this regard.

4 DURATION OF THE PROJECT

4.1 The Routine Maintenance Service required shall be for six (6) months.

4.2 The NLSA will advise on the start and end date of the service.

5 CONDITIONS OF BID

5.1 The NLSA reserves the right not to accept the lowest quoted price.

5.2 The NLSA reserves the right to appoint one or more Bidder.

5.3 The NLSA reserves the right to have any documentation, submitted by the successful Bidder checked or inspected by any other person or organisation.

5.4 The NLSA will not be held responsible for any costs incurred by the Bidder in the preparation and submission of the RFQ.

5.5 No upfront Payment will be done by NLSA.

5.6 The quotations shall remain valid for 60 days and may be extended at the discretion of the NLSA.

5.7 Should it be necessary to change any of the resources that have been submitted in the RFQ, the NLSA must be presented with the CV's, Qualifications and Registrations of the replacement resources, for which approval is to be conducted by the Client.

6 EVALUATION CRITERIA

6.1. Pre-Evaluation (standard bid documents)

6.1.1. Fully completed SBD 4, SBD 6.1 forms.

7.Evaluation Stage 2:

No	Element	Weight	Points	Score
	Technical			
1.	Bidders Experience - Provide reference letters on official letterheads from your clients for HAVC repair and maintenance projects/services successfully rendered in the past five years. - Reference letters to include the scope of work, duration, the value of the project and contact details of the reference. @ 60 points = 4 or more contactable references with all the above requirements met @ 50 points = 3 contactable references with all the above requirements met @ 40 points = 2 contactable references with all the above requirements met @ 30 points = 1 contactable reference with all the above requirements met	60		
2	Project / Service proposal / Methodology Provide a detailed proposal indicating the following. - Team qualifications (CVs and, or Certificates indicating the complementary skills of the team) - Team availability (response time, e.g., 1 hour for emergency and 4 hours for normal calls) Provide details of the procedures in place to achieve the response times - Onsite Safety Considerations (provide a CV, Qualification and Registration of your safety officer assigned to this project. The safety officer liaises with the NLSA on OSH matters) - Communication Plan (e.g., Call Centre, etc.) - Check list for all HVAC components (sample) @ 40 points = Proposal with all above 5 requirements fully met. @ 0 points = Proposal with less than 5 of the above requirements met	40		

8.PREFERENCE POINT SYSTEM

- In terms of Regulation 5 of the Preferential Procurement Regulations of 2022/23, Gazette Number 47452 dated 4 November 2022 pertaining to the Preferential Procurement Policy Framework Act, 2000 (Act 5 of 2000), responsive bids will be adjudicated by the State on the 80/20-preference point in terms of which points are awarded to bidders on the basis of:
- The bid price (maximum 80 points)

The following formula will be used to calculate the points out of 80 for price in respect of an invitation for a tender, inclusive of all applicable taxes.

$$P_s = 80 \left(1 - \frac{P_t - P_{\min}}{P_{\min}} \right)$$

Where-

P_s = Points scored for price of tender under consideration;

P_t = Price of tender under consideration; and

$P_{\min}$ = Price of lowest acceptable tender.

$$P_s = 80 \left(1 - \frac{P_t - P_{\min}}{P_{\min}} \right)$$

Where-

P_s = Points scored for price of tender under consideration;

P_t = Price of tender under consideration; and

$P_{\min}$ = Price of lowest acceptable tender.

9 SPECIFIC GOALS (maximum of 20 points):

100% Black Ownership

Companies with 100% black ownership – 20 Points

Companies with less than 100% black ownership – 10 Points

PRICING

7.1 Provide detailed quotation as per the following: **Monthly Routine Maintenance Services**

The total amount per service	Price
3x Chillers (5x Minor + 1 major)	
9x Compressors (5x Minor +1x Major)	
20x Pumps (5x Minor +1x Major)	
3x Cooling Towers (5x Minor + 1x Major)	
15x Split units (5x Minor + 1x Major service)	
3x Airhandling units (5xMinor+1Major service)	
18x Extraction Fans (5xMinor + 1Major service)	
14x DB-Aire	
155x FCU's	
Safety File (if not included above)	
Onsite resource (Artisan – CV, Qualification & Registrations)	
Onsite resource (Assistant Artisan – CV, Qualification & Registrations)	
TOTAL VALUE OF CONTRACT	

10. ENQUIRIES

All enquiries regarding this RFQ must be directed to the SCM Office:

For any RFQ related enquiries please sent to the following email address quoting the Bid Number, Bid Description as a Reference; Lorraine.Mongwe@nlsa.ac.za and quotations@nlsa.ac.za OR (012) 401 9766/9700/81