RFQ Number	**SAF-RFQ-0058**
Request for Quotation Date	**2023-05-17 (Extended)**
RFQ Closing Date	**2023-05-26**
RFQ Closing Time	**10.00am**
Compulsory Site Briefing	**N/A**
Contact Person	Sejako.Tolo@necsa.co.za
Quotation Validity	**90 Days from the closing date**
Submission Details	**RFQ Response must be sent to:** Catherine.Matima@necsa.co.za Sejako.Tolo@necsa.co.za
RFQ Description	Neutron Safety Channel Guarded Fission Chamber Detector With Mineral Insulated Cable

Dear Service Provider

Kindly provide a quotation for goods and or services as outlined in section 2 of this document.

1. Introduction

The South African Nuclear Energy Corporation Limited (Necsa) is a state-owned public company (SOC), registered in terms of the Companies Act, (Act No. 61 of 1973), registration number 2000/003735/06.

The Necsa Group engages in commercial business mainly through its wholly-owned commercial subsidiaries: NTP Radioisotopes SOC Ltd (NTP), which is responsible for a range of radiation-based products and services for healthcare, life sciences and industry, and Pelchem SOC Ltd (Pelchem), which supplies fluorine and fluorine-based products. Both subsidiaries, together with their subsidiaries, supply local and global markets, earning valuable foreign exchange for South Africa and are among the best in their field in their respective world markets.

Necsa's safety, health, environment and quality policies provides for top management commitment to compliance with regulatory requirements of ISO 14001, OHSAS 18001 and RD 0034 (Quality and Safety Management Requirements for Nuclear Installations), ISO 9001 and ISO 17025.

Necsa promotes the science, technology and engineering expertise of South Africa and improves the public understanding of these through regular communications at various forums and outreach programmes to the community. We are a proudly South African company continuously striving, and succeeding in many respects, to be at the edge of science, technology and engineering related to the safe use of nuclear knowledge to improve our world.

For more information on Necsa, please visit: **www.necsa.co.za**

2. Scope of Work

Item Description	Quantity
Neutron Safety Channel Guarded Fission Chamber Detector With Mineral Insulated Cable (See RR-SPE-0052 Specification attached)	2

3. Pricing

- All price quoted to include all applicable taxes.
- Price must be fixed and firm
- Price should include additional cost elements such as freight, insurance until acceptance, duty where applicable, disbursements etc.
- Quotation must be completed in full, incomplete quote could result in a quote being disqualified.
- Payment will be according to Necsa's General Conditions of Purchase.

4. Evaluation

4.1. Phase 1- Functionality Evaluation / Technical Evaluation

Where functional or technical evaluation criterion is applicable, assessment will be performed in terms of the criterion listed below and the criterion may include Technical, Performance, Quality and Risk.
If the Bidder's response to the Technical templates does not indicate that the Bidder can support an acceptable technical solution, the Bidder's response will be rejected and not evaluated further.

Together the Technical, Performance & Quality and Risk criteria make up the functionality criterion and a Bidder's Proposal will be evaluated for functionality out of a possible 100 points. Only RFQ responses achieving an evaluation score of greater than the set threshold points out of the possible 100 points and which score a number of points for functionality that is greater than or equal to the set threshold points of the number of points achieved by the highest scoring Bid for functionality will be selected to progress to the second stage.

4.2. **Phase 2 - Evaluation In Terms Of Preferential Procurement Policy Framework Act, 2022**

This bid will be evaluated and adjudicated according to the 80/20 point system, in terms of which a maximum of 80 points will be awarded for price and 20 points will be allocated based on the specific goals (B-BBE status level).

	POINTS
PRICE	**80**
SPECIFIC GOALS (B-BBEE status level)	**20**
Total points for Price and SPECIFIC GOALS	**100**

Preference goal
B-BBEE status level contributor

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

5. Required Documentation
   - Tax Clearance Certificate (Tax pin issued by SARS)
   - Declaration of interest (SBD 4)
   - BEE Certificate / Applicable Affidavit if classified as EME

- Letter of Good Standing (COID) only if Applicable due to the nature of work required
- Any other document or certification that might have been requested on this RFQ

6. Important

6.1. Quotation must be submitted on or before the RFQ closing date and time stated above.

6.2. Orders above R 30 000 will be evaluated according to the PPPFA 80/20-point system and a functionality scorecard where applicable and the ones above R 1 Million will be subjected to the tender process.

6.3. This RFQ is subjected to the Necsa's General Conditions of Purchase, Preferential Procurement Policy Framework Act 2000 and the Preferential Procurement Regulations, 2022, the General Conditions of Contract (GCC) and, if applicable, any other legislation or special conditions of contract

6.4. 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 specific goals are not claimed.

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

6.6. For a Bidder to obtain clarity on any matter arising from or referred to in this document, please refer queries, in writing, to the contact details provided above. Under no circumstances may any other employee within Necsa be approached for any information. Any such action might result in a disqualification of a response submitted in competition to this RFQ.

6.7. No goods and/or services should be delivered to Necsa without an official Necsa Purchase order.

6.8. Necsa reserves the right to; cancel or reject any quote and not to award the RFQ to the lowest Bidder or award parts of the RFQ to different Bidders, or not to award the RFQ at all.

6.9. The supplier shall under no circumstances offer, promise or make any gift, payment, loan, reward, inducement, benefit or other advantage, which may be construed as being made to solicit any favour, to any Necsa employee or its representatives. Such an act shall constitute a material breach of the Agreement and the Necsa shall be entitled to terminate the Agreement forthwith, without prejudice to any of its rights

6.10. By responding to this request, it shall be construed that: the bidder, hereby acknowledge to be fully conversant with the details and conditions set out in the Necsa's General Conditions of Purchase, Preferential Procurement Policy Framework Act 2000 and the Preferential Procurement Regulations, 2022, the General Conditions of Contract (GCC), Technical Information and Specifications attached, and hereby agree to supply, render services or perform works in accordance therewith

1.1 DETECTOR SPECIFICATION

****Please fill in all the Supplier Actual specifications and attach the data specification sheets***

Table 1: Guarded Fission Chamber Detector specification

Item Description: Guarded Fission Chamber Detector specification		**Name Of Supplier:**	
Mechanical	**Necsa Specifications**	**Supplier Actual specifications**	**Comments/ Justification**
Diameter	80.02 mm (3.15 inches)		
Overall Length	331.7 mm (13.06 inches)		
Distance from nose to start of sensitive length	22mm (0.88 inches)		
Sensitive Length	9.25 inches		
Net weight	2.4Kg (5.29 pounds)		
Connectors			
Connector Type	No connector on chamber		
Insulator type	Not Applicable		
Material Requirements			

Detector Housing Material	Aluminium Grade 1000 series		
Electrodes	Aluminium Grade 1000 series		
Insulator type	Alumina Ceramic		
Neutron Sensitive Material	Content: ≥ 93% enriched U-235		
	Thickness: 0.6 to 2.0 mg/cm2		
	Total Quantity of Uranium: 0.72 to 1,3 grams Specifically total mass and U 235 mass must be provided per detector serial number		
Gas Filling	95%(min) of Argon with 5% Nitrogen(max)		
Gas Pressure	14.7 psi (1 bar)		

Impedance			
Resistance at 25 °C (Minimum)	> 10^{12} Ohms		
Capacitance	Signal Electrode to Case: >135 pF		
	High Voltage Electrode to Case: >240 pF		
Maximum Ratings			
Voltage Between Electrodes	1000 Volts		
Temperature	300°C		
Thermal Neutron Flux(ϕ)	$1.5 < \phi < 2.0 \times 10^{10}$ nv		
Burn-up life 10% decrease in sensitivity	3.0×10^{20} nvt		
Typical Operation			
Operating Voltage	300 volts		
Operating Voltage Plateau	200 to 800 volts		
Thermal Neutron Flux Range	1.5 to 2.0 x 10^{10} nv		
Sensitivity	0.7 cps/nv		
Thermal Neutron Sensitivity	>1.2 x 10^{-13} Amps/nv(min)		

Gamma Sensitivity	<5 x 10^{-11} Amps/R/hr(max)		

1.2 CABLE SPECIFICATION

Table 2: Mineral Insulated (MI) Cable Specification

Item Description: Mineral Insulated (MI) Cable Specification		**Name Of Supplier:**	
Dimensions	**Necsa Specifications**	**Supplier Actual Specifications**	**Comments/ Justification**
Outer Diameter	5.0 ±0.05 mm		
Inner Diameter	3.0 ±0.15 mm		
Wire Diameter	0.75 ±0.10 mm		
Cable Length	±21 m		
Connectors			
Connector at Amplifier box	N Type male		
Material			
Wire	Copper CuA1		
Insulator	SiO2 purity > 99.5%		
Sheath	Stainless Steel AISI 304L(external)-copper inside (CuA1) (internal)		

Electrical Characteristics			
Line Resistance	approx. 0.035 Ohms/m ±0.1		
Insulation Resistance	≥10^{12} Ohms.m at 20°C under 1000VDC		
Dielectric test	≥1.10^{10} Ohms.m at 200°C under 1000VDC		
	≥1500 VDC/1min between wire and sheath		
Typical Impedance	50 Ohms ± 2Ohms		
Other Characteristics			
Minimum Bend Radius	250 mm		
Minimum Bend Radius (once-on installation)	50 mm		

1.3 REQUIRED DOCUMENTATION

****Please provide a copy of required documentation as stated in the Technical Specification(RR-SPE-0052) or a signed confirmation letter by Supplier indicating that the documents will be provided as part of delivery of equipment ***