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RFQ Number	NLM-QUO-24/086
Request for Quotation Date	29 May 2025
RFQ Closing Date	20 June 2025
RFQ Closing Time	17:00
Compulsory Site Briefing	Not compulsory but if more information required can be arranged
Contact Person	Catherine Matima
Quotation Validity	20 Days from the closing date
Submission Details	RFQ Response must be sent to: catherine.matima@necsa.co.za
RFQ Description	To Design, Manufacture and Supply an Electrical Heater as per the attached specification sheet

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

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2. Background

Necsa plans to establish a plasma gasification demonstration facility in a laboratory on-site to volumetrically reduce uranium-containing PTFE candle filters. The off-gas from a wet KOH scrubber S83123 in the gas clean-up system(see Ref. 02 in Section 4) passes through a set of HEPA filters, F831238A&B and F831239, to remove any particulate matter, before the gas is discharged into the process ventilation system. To prevent any moisture that may remain in the off-gas from condensing in the HEPA filters, thereby causing damage to the filters and/or affecting their operation, the off-gas first passes through an in-line electrical heater, H83127, installed upstream of the filters. In doing so, the off-gas is heated from a temperature of around 35 °C to 60 °C, which is approximately 30 °C above its dew-point. Details of the electrical heater are given in the attached Specification Sheet (see Ref. 01 in Section 4).

3. Scope of Work

Item Description	Quantity
The scope includes the supply of one (1) off Electric heater as per the attached Specification Sheet (ENS-FDP-SPE-24022), furnished of all labour, material and service for sizing, selection, design, Manufacturing, deliver to Necsa in Pelindaba, along with all accessories. All other equipment and components identified and referenced in Section 2 are outside the scope of work considered here. Note: Where the requested product is available as an off-the-shelf item, and the design and manufacture of an entirely new electric heater for the described application will also be considered, provided that the requirements given in the attached Specification Sheet are adequately satisfied. For either option (manufacture (Option A) or off-the-shelf (Option B)), please submit the required information/documents specified in the appropriate option (i.e. manufacture or off-the-shelf) in section 6 for evaluation purposes.	1

General Requirements

The general requirements of the works include but not limited to the items listed below and detailed in the Specification sheet:

- Supply of a complete assembly electric heater, including all mounting liners and accessories;
- Start-up and commissioning spared (detailed breakdown in the tender summary sheet);
- Equipment General Arrangement (GA) drawings;
- Equipment data books and operating/ maintenance manuals;
- Packaging and deliver to site at Necsa in Pelindaba.

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4. Attachments

Ref #	DOCUMENT NAME	DESCRIPTION
01	ENS-FDP-SPE-24022	Specification Sheet for Electrical Heater H83127
02	ENS-FDP-PID-24003	PTFE Facility Destruction Project: P&I Diagram – KOH Scrubber System 831
03	N/A	Model Coil-1
04	N/A	Photo of electrical heater 1
05	N/A	Photo of electrical heater 2

5. 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.

6. Evaluation

6.1. 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.

The quotations will be evaluated according to the following selection criteria (based on information requested above):

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OPTION B: EVALUATION CRITERIA FOR THE SUPPLY OF 1 Off OFF-THE-SHELF ELECTRICAL HEATER				
Item	Requirement	Weight	Points	Criteria
1	ISO 9001: 2015 (or latest) accredited Supplier must provide evidence (ISO 9001 certificate)	40	40	ISO 9001 accreditation of supplier of the required products. OR ISO 9001 accreditation of OEM and OEM letter listing local supplier as authorised supplier and service agent
2	Supplier must provide letter referencing after sales service and maintenance	30	30	Supplier having a service and repair workshop Supplier holds critical spares as stock items
			20	Supplier having a service and repair workshop
			10	Supplier outsources service and repair
3	Supplier lead-time Supplier must specify lead-time	30	30	Product available within 4 weeks of issue of Purchase Order
			20	Product available within 6 weeks of issue of Purchase Order
			10	Product available within 8 weeks of issue of Purchase Order
Total		100		

6.2. **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).

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	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

7. 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

8. Important

- 8.1. Quotation must be submitted on or before the RFQ closing date and time stated above.
- 8.2. 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.

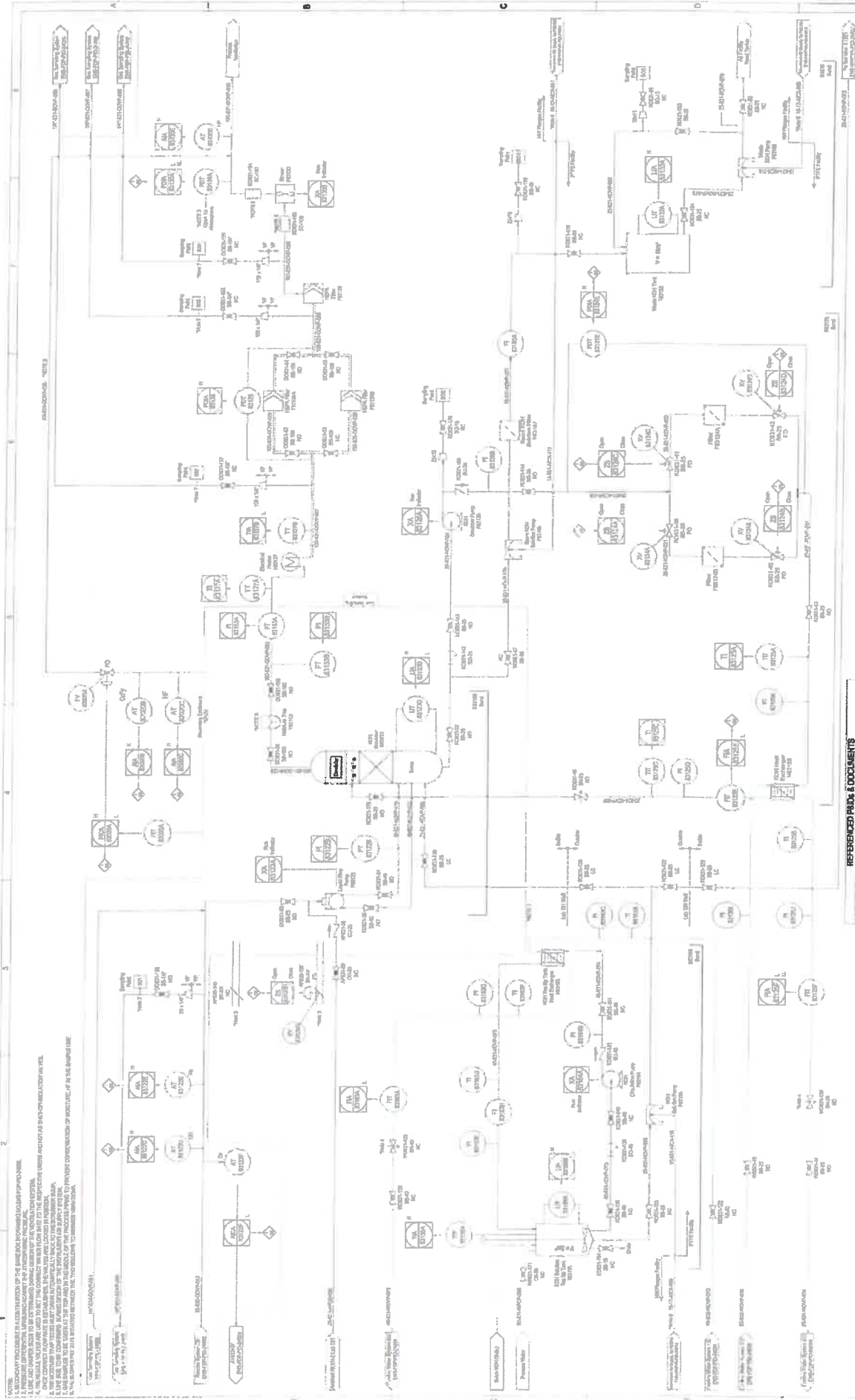
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- 8.3. This RFQ is subjected to the Necsa's General Conditions of Purchase, Preferential Procurement Policy Framework Act 2000 and the Preferential Procurement Regulations, 2022, the General Conditions of Contract (GCC) and, if applicable, any other legislation or special conditions of contract
- 8.4. 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.
- 8.5. 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.
- 8.6. 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.
- 8.7. No goods and/or services should be delivered to Necsa without an official Necsa Purchase order.
- 8.8. 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.
- 8.9. 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
- 8.10. 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

ENGINEERING SERVICES DEPARTMENT				 South African Nuclear Energy Corporation	
SPECIFICATION SHEET FOR ELECTRICAL HEATER H83127					
Project		PTFE Filter Destruction Project		Unit Tag No.	
Datasheet Document No.		ENS-FDP-SPE-24022		Revision	
				H83127	
				2	
Description		Electrical heater (H83127) is used to heat up the off-gas exiting the scrubber from a temperature of 35 °C to 60 °C. The gas is drawn through the electrical heater using a blower downstream of the heater. Two in-line HEPA filters are installed in series between the heater outlet and blower inlet.			
Plant location		NECSA, Pelindaba, North-West Province.			
Equipment location		PTFE Filter Destruction Facility - Process area inside Laboratory-131, Building V-H2.			
Safety Classification		SC-3 (N) and SC-2 (C) ^[a]			
Quality Classification		QC-3 (N) and QC-2 (C) ^[b]			
Process Fluid		Gas mixture containing (wt. %): CO ₂ [79,1 %], HF [0,04 %], O ₂ [7,3 %], N ₂ [13,6 %].			
Fluid state		Gas.			
Solid content		PTFE and solid uranium compound particulates may be present in the off-gas.			
Corrosive due to		Hydrogen Fluoride (HF) gas - produced at 7.92 gram / hour.			
		UNITS		DESIGN CONDITIONS	
Operating pressure		kPa (abs) ^[c]		78	
Operating temperature		K		333	
Mass flow rate		kg/h		22	
Volume flow rate		m ³ /h		18	
Density		kg/m ³		1,21	
Viscosity		Pa.s		1,7 x 10 ⁻⁵	
Thermal conductivity		W/m.K		1,57 x 10 ⁻²	
Specific heat capacity (Cp)		kJ/kg.K		0,90	
ELECTRICAL INTERFACE					
Heat load		kW		0,20	
Frequency		Hz		Supplier to Advise.	
				Volt	
				Phase	
Materials of construction		Wetted		Supplier to Advise.	
		Non-wetted		Supplier to Advise.	
FLANGE CONNECTION					
Size		100 mm			
Flange rating		150#, RF			
Flange Materials of construction		SS, ASTM A182-F304/304L, ASME B16.5			
Gasket		1/16" thick flexible graphite w/304 SS or corrugated insert, ASME B16.5			
MATERIAL OF CONSTRUCTION					
Element sheath material		Supplier to Advise.			
Tubesheet material		Supplier to Advise.			
Baffles/element supports		Supplier to Advise.			
Terminal box material		Supplier to Advise.			
Tubesheet-to-vessel flange bolting material		Supplier to Advise.			
Tubesheet-to-vessel flange joint gasket		Supplier to Advise.			
GENERAL					
Heater type		Flanged in-line heater. Direct contact between process fluid and heater element.			
General notes		Factory acceptance test required.			
REFERENCES					
[1] ENS-FDP-CLC-24014: Mass Balance Calculation for the PTFE Filter Destruction System.					
[2] ENS-FDP-CLC-24019: Pressure Balance across the PTFE filter Destruction System.					

RESTRICTED

ENGINEERING SERVICES DEPARTMENT			 NECSA South African Nuclear Energy Corporation SPC Limited
SPECIFICATION SHEET FOR ELECTRICAL HEATER H83127			
Project	PTFE Filter Destruction Project	Unit Tag No.	H83127
Datasheet Document No.	ENS-FDP-SPE-24022	Revision	2
NOTES AND ABBREVIATIONS			
[a] SC - Safety Class			
[b] QC - Quality Class			
[c] Supplier to advise on special requirements for installation of the heater.			
[d] Atmospheric pressure = 87 kPa on NECSA Site.			
	Name	Signature & Date	
Compiled by	L Dlamini (Process Engineer)	 Signed by Lopho Wesley Dlamini, lopho.dlamini@necsa.co.za	
Checked	MB Msane (Mechanical Engineer)	 Signed by Mphahlele Msane, mphahlele.msane@necsa.co.za	
Checked	B Khumalo (Senior Process Engineer)	 Signed by Bheke Khumalo, bheke.khumalo@necsa.co.za	
Checked	G Manuel (Chief C&I Engineer)	 Signed by Gert Manuel, gert.manuel@necsa.co.za	
Checked	S Mngoma (Chief Mechanical Engineer)	 Signed by Siphiso Mngoma, siphiso.mngoma@necsa.co.za	
Checked	W van den Berg (Chief Electrical Engineer)	 Signed by Willem Van Den Berg, willem.vandenberg@necsa.co.za	
Approved	K Moodley (Chief Process Engineer)	 Signed by Karent Moodley, karent.moodley@necsa.co.za	
Distribution	1. ES Records 2. Docman 3. Dr K Moodley 4. Mr D Ngwenya		



		PROJECT PTFE FILTER DESTRUCTION PROJECT TITLE PID DIAGRAM DRAWN ENS-FDP-PID-24003 SHEET 1 OF 1	
SCALE NTS UNITS -mm		DATE 2020-08-01 REV 1 DESCRIPTION PTFE FILTER DESTRUCTION PROJECT APPD 1 DATE 2020-08-01	
REFERENCE PIDS & DOCUMENTS		SIGNATURE	
NAME P. M. M. M. C. M. M. M. C. M. M. M. C. M. M. M. C. M. M. M. C. M. M. M.	DESIGNATION Process Engineer Process Engineer Senior Process Engineer Chief Mechanical Engineer Chief Process Engineer Chief Process Engineer	APPRO	

