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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.

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.

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.

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.

1. Introduction

Kindly provide a quotation for goods and or services as outlined in section 3 of this document.

Dear Service Provider

RFQ Number	NLM-QUO-25/112
Request for Quotation Date	25 August 2025
RFQ Closing Date	29 August 2025
RFQ Closing Time	12:00
Compulsory Site Briefing	Not compulsory but if more information required can be arranged
Contact Person	Stephanie Kruger
Quotation Validity	90 Days from the closing date
Submission Details	RFQ Response must be sent to: stephanie.kruger@necsa.co.za
RFQ Description	To supply In-Line Filters as per the attached Specification Sheets

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2. Background

Necsa plans to establish a plasma gasification demonstration facility in a laboratory on-site to volumetrically reduce uranium-contaminated waste oil. The oil feed system that services the facility is reflected in the attached Piping and Instrumentation Diagram (P&ID) [03]. The oil feed system operates on a semi-continuous basis, whereby it is started, run continuously for up to 8 hours, and then shut down. A maximum oil throughput rate of 10 kg/h (or approximately 0.016 m³/h) is maintained during operation. A total oil volume of up to 1.5 m³ of waste oil is processed in this manner.

Two sets of in-line liquid filters, F1011A & B and F1003A & B, are provided in the oil feed system. The filters F1011A & B are installed in parallel upstream of the oil feed pump P1002, as shown in the P&ID. Similarly, the filters F1003A & B are installed in parallel downstream of pump P1002. The filters are provided to remove any solid particles from the waste oil prior to entering the oil heater H1005. Information on the required filters is given in the following Table, with additional detail provided in the attached Specification Sheets, [01] and [02].

Equipment No.	Technical Information	Supplier Model
F1003 A & B (2 filters)	Stainless Steel 316 Tee-type Particulate Filter, ¾" Tube Compression Fitting Connection, 7 µm Nominal Pore Size Sintered Metal Element, Filtration Area = 1280 mm ²	Swagelok Part No. SS-6TF-7 OR FITOK Part No. FTSS-FL6-7
F1011 A & B (2 filters)	Stainless Steel 316 Tee-type Particulate Filter, ¾" Tube Compression Fitting Connection, 60 µm Nominal Pore Size Sintered Metal Element, Filtration Area = 1280 mm ²	Swagelok Part No. SS-6TF-60 OR FITOK Part No. FTSS-FL6-60

For each set of filters, one filter is operational at any given time, while the other filter remains on standby. The differential pressure across the filters is monitored continuously to identify blockage. If blockage of the operational filter is detected, provision is made to manually isolate

this filter and switch over to the standby filter. The required cleaning or maintenance can then be performed on the blocked filter.

3. Scope of Work

Item Description	Quantity
NOTE: - Only the specified Swagelok or FITOK filters are accepted for use. - Spare filter elements and sealing gaskets must be supplied. - All other equipment and components identified in Section 2 and/or shown in the P&ID [03] are outside the scope of work considered here. To supply and deliver to the NECSA site the identified In-Line Filters, F1011A, F1011B, F1003A and F1003B, as per the attached Specification Sheets [01] and [02].	
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4. Attachments

Ref #	DOCUMENT NAME	DESCRIPTION
01	ENS-OWPVR-SPE-25029, Rev. 1	Oil Feed Upstream Filter F1011A/B Specification Sheet
02	ENS-OWPVR-SPE-25030, Rev. 1	Oil Feed Downstream Filter F1003A/B Specification Sheet
03	ENS-OWPVR-PID-24002, Rev. 5	Uranium Contaminated Waste Oil Plasma Gasification P&ID – Waste Oil Feed System

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, delivery to site, 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.

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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):

Item	Requirement	Weight	Points	Criteria
1	Supplier must provide letter referencing after sales service and maintenance	60	60	Supplier have a service and repair workshop and holds critical spares as stock items
			40	Supplier have a service and repair workshop (but does not hold critical spares as stock items)
			20	Supplier outsources service and repair
2	Supplier lead-time	40	40	Product available within 4 weeks of issue of Purchase Order
	Supplier must specify lead-time		30	Product available within 6 weeks of issue of Purchase Order
			20	Product available within 8 weeks of issue of Purchase Order
			10	Product available after 9 weeks of issue of Purchase Order
Total		100		

Note: Bidders that score <80 out of 100 in respect of Technical/Functional evaluation criteria will be regarded as submitting a non-responsive bid and will not be evaluated further.

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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-BBEE status level).

PRICE	POINTS
SPECIFIC GOALS (B-BBEE status level)	80
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

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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.
- 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.

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- 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

OIL FEED DOWNSTREAM FILTER F1003A/B SPECIFICATION SHEET



Project	Contaminated Waste Oil Plasma Gasification	Unit Tag Number	F1003 A/B	Revision	1
Datasheet Document No.	ENS-OWPVR-SPE-25030	Revision			
Description	Filter F1003 A/B is installed downstream of Oil feed pump P1002 in the Contaminated Waste Oil Plasma Gasification (CWOPG) Demonstration Facility ^[1] . Its function is to clean the oil feed stream prior to the oil entering the oil heater H1005, by removing any particulate contamination present, such as rust/dust.				
Plant location	Necsa, Pellindaba, North-West Province				
Equipment Location	CWOPG Facility - Process area inside Laboratory-150, Building V-H2				
Safety Classification	SC-2(C) and SC-3(N)				
Quality Classification	SC-2(C) and SC-3(N)				
Fluid	Uranium contaminated waste oil. Uranium is present as a combination of uranium fluorides, either UF ₄ or UF ₆ , and uranium oxyfluorides e.g. UO ₂ F ₂ . It is assumed fluoride and chlorine content in waste oil is present as HF and HCl respectively, dissolved in the hydrocarbon oil [Note 1].				
Fluid state	Liquid				

FLUID PROPERTIES

	Minimum	Maximum
Operating temperature	°C	Ambient ^[3]
Operating pressure	kPa (g)	1000 ^[3]
Mass flow rate	kg/h	10 ^[3]
Volume flow rate	m ³ /h	0,01
Density	kg/m ³	630 ^[3]
Viscosity	Pa.s	0,00173 ^[3]
Specific heat capacity (Cp)	kJ/kg.K	2.3
Allowable pressure drop	kPa	1

MECHANICAL PROPERTIES

Process Connections					
Inlet Nozzle	Size	3/8", SCH 40	Rating	150#	Flange Spec: Threaded (Supplier to advise)
Outlet Nozzle	Size	3/8", SCH 40	Rating	150#	Flange Spec: Threaded (Supplier to advise)
Filter Class	Class 150 (Supplier to advise)				
Material of Construction					

Material of Construction

Housing	Supplier to advise
Filter	Supplier to advise
Filter type	Supplier to advise
Removal Efficiency (%)	99,00 (efficiency for removing particles 10 microns or larger)

REFERENCE DRAWINGS AND DOCUMENTS

- [1] ENS-OWPVR-PID-24002, P&ID - Waste Oil Feed System, Uranium Contaminated Waste Oil Plasma Gasification Project
- [2] ENS-OWPVR-DES-24001, Process Description for the Uranium Contaminated Oil Waste Plasma Gasification Demonstration Facility
- [3] ENS-OWPVR-CLC-24002, Mass & Energy Balance Calculations for the Basic Engineering Design of the Uranium Contaminated Waste Oil Plasma Gasification Project

NOTES

Note 1: The expected composition of the oil is as follows: Toluene 3,22 wt%, Hexadecane 7,95 wt%, Heptadecane 16,61 wt%, Octadecane 18,52 wt%, Nonadecane 53,34 wt%, Elemental Uranium 0,11 wt%, Elemental Sulphur 2,106 E-06 wt%, HF 0,037 wt%, and HCl 0,212 wt%^[2]

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ENGINEERING SERVICES DEPARTMENT

OIL FEED UPSTREAM FILTER F1011A/B SPECIFICATION SHEET



Project		Contaminated Waste Oil Plasma Gasification		Unit Tag Number	F1011 A/B
Datasheet Document No.		ENS-OWPVR-SPE-25029		Revision	1
Description					
Filter F1011 A/B is installed in-line, upstream of Oil feed pump P1002 in the Contaminated Waste Oil Plasma Gasification (CWOPG) Demonstration Facility ^[1] . Its function is to clean the oil feed stream prior to the oil entering pump P1002, by removing any particulate contamination present, such as rust/dust.					
Plant location					
Necsa, Pellindaba, North-West Province					
Equipment Location					
CWOPG Facility - Process area inside Laboratory-150, Building V-H2					
Safety Classification					
SC-2(C) and SC-3(N)					
Quality Classification					
SC-2(C) and SC-3(N)					
Fluid					
Uranium contaminated waste oil. Uranium is present as a combination of uranium fluorides, either UF ₄ or UF ₆ , and uranium oxyfluorides e.g. UO ₂ F ₂ . It is assumed fluoride and chlorine content in waste oil is present as HF and HCl respectively, dissolved in the hydrocarbon oil ^[Note 1]					
Fluid state					
Liquid					
FLUID PROPERTIES					
		Minimum		Maximum	
Operating temperature	°C	Ambient ^[3]			
Operating pressure	kPa (g)	1.63 ^[3]			
Mass flow rate	kg/h	10 ^[3]			
Volume flow rate	m ³ /h	0.01			
Density	kg/m ³	630 ^[3]		822.95 ^[3]	
Viscosity	Pa.s	0.00173 ^[3]		0.00328 ^[3]	
Specific heat capacity (Cp)	kJ/kg.K			2.3	
Allowable pressure drop	kPa			1	
MECHANICAL PROPERTIES					
Process Connections					
Inlet Nozzle	Size	3/8", SCH 40	Rating	150#	Flange Spec:
Outlet Nozzle	Size	3/8", SCH 40	Rating	150#	Flange Spec:
					Threaded (Supplier to advise)
Filter Class	Class 150 (Supplier to advise)				
Housing	Supplier to advise				
Filter	Supplier to advise				
Filter type	Supplier to advise				
Removal Efficiency (%)	99.00 (efficiency for removing particles 10 microns or larger)				
REFERENCE DRAWINGS AND DOCUMENTS					
[1] ENS-OWPVR-PID-24002, P&ID - Waste Oil Feed System, Uranium Contaminated Waste Oil Plasma Gasification Project					
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RESTRICTED					

