RFQ Number	**NLM-QUO-25/069**
Request for Quotation Date	**16 July 2025**
RFQ Closing Date	**30 July 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	**90 Days from the closing date**
Submission Details	**RFQ Response must be sent to:** catherine.matima@necsa.co.za
RFQ Description	To supply one moisture trap 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

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 moisture trap, Y83153, is installed in the main process off-gas line from the wet KOH scrubber, S83123, in the facility to remove any moisture, either in the form of water or scrubbing liquid, above the saturation level in the gas. The position of the moisture trap within the process is reflected in the attached Piping and Instrumentation Diagram (P&ID) [02], with detail given in the attached Specification Sheet [01].

3. Scope of Work

Item Description	Quantity
To supply the required moisture trap, Y83153 as per the attached Specification Sheet [01]. All other equipment and components identified in Section 2 and/or shown in the P&ID [02] are outside the scope of work considered here.	1

4. Attachments

Ref #	DOCUMENT NAME	DESCRIPTION
01	ENS-FDP-SPE-24044, Rev. 1	Specification Sheet for Moisture trap Y83153
02	ENS-FDP-PID-24003, Rev. 5	PTFE Filter Destruction Project P&ID Diagram – KOH Scrubber System 831

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):

Item	Requirement	Weight	Points	Criteria
1	ISO 9001: 2015 (or latest) accredited **Supplier must provide evidence (ISO 9001 certificate)**	25	25	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**	25	25	Supplier have a service and repair workshop Supplier holds critical spares as stock items
			15	Supplier have a service and repair workshop
			10	Supplier outsources service and repair
3	Supplier lead-time **Supplier must specify lead-time**	25	25	Product available within 4 weeks of issue of Purchase Order
			15	Product available within 6 weeks of issue of Purchase Order

Item	Requirement	Weight	Points	Criteria
			10	Product available within 8 weeks of issue of Purchase Order
4	**Suitability of Product**	25	25	Supplier adequately demonstrates how the recommended product meets the user's requirements or specifications (provide Data sheet)
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.

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).

	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.

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

MOISTURE TRAP SPECIFICATION SHEET

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Project	PTFE Filter Destruction Project	**Unit Tag Number**	Y83153
Datasheet Document No.	ENS-FDP-SPE-24044	**Revision**	1.0
Description	Moisture trap Y83153 is installed on the process off-gas line 100-831-GOVP-023, downstream of the wet scrubber S83123 in the PTFE Filter Destruction Facility to remove any moisture, either in the form of water or as scrubbing liquid, above the saturation level in the gas.		
Plant location	Necsa, Pelindaba, North-West Province.		
Equipment location	PTFE Filter Destruction Facility - Inside secondary enclosure Y82020 in Laboratory-131, Building V-H2.		
Safety Classification	SC-2(C) and SC-3(N)		
Quality Classification	QC-2(C) and QC-3(N)		
Fluid [Note 1]	Scrubber off-gas containing CO_2 , HF, O_2 and N_2 [3], with traces of moisture.		
Fluid state	Gas		
Solid content	Possible PTFE and solid uranium compound particulates.		
Corrosive due to	Hydrogen Fluoride (HF) gas - produced at 7.92 g/h [2].		

FLUID PROPERTIES

PARAMETERS	UNITS	MINIMUM	MAXIMUM
Operating temperature	**°C**	44,2 [3]	
Operating pressure	**kPa (g)**	-7,9 [4]	
Mass flow rate	**kg/h**	4,64 [2]	22,1 [2]
Volume flow rate	**m^3/h**	5,46	18,3
Moisture content	**g/h**		10,7 [Note 3]
Density	**kg/m^3**	0,85	1,21 [4]
Viscosity	**Pa.s**	2,10E-02	1,7E-05 [4]
Specific heat capacity (C_p)	**kJ/kg.K**	1,02	0,63 [5]
Allowable pressure drop	**kPa**	1 [4]	

MECHANICAL & ELECTRICAL PROPERTIES

Pipeline Size	100 NB, SCH 40								
Material of Construction									
Body Material	SS, ASTM A182-F304/304L								
Process Connections									
Outlet	**Size**	4"	**Rating**	150#	**Flange Spec.**	SS, ASTM A182-F304/304L, ASME B16.5			
Input	**Size**	4"	**Rating**	150#	**Flange Spec.**	SS, ASTM A182-F304/304L, ASME B16.5			
Moisture Trap Type	Electronically operated								
Electrical Supply	**kW**	Supplier to advise	**Volts**	Supplier to advise	**Phase**	Supplier to advise	**Hz**	Supplier to advise	

REFERENCE DRAWINGS AND DOCUMENTS

[1] ENS-FDP-PID-24003, PTFE Filter Destruction Project P&ID Diagram - KOH Scrubber System 831

[2] ENS-FDP-CLC-24014, Mass Balance Calculation for the PTFE Destruction System

[3] ENS-FDP-CLC-24015, Energy Balance Calculation for the PTFE Destruction System

[4] ENS-FDP-CLC-24019, Pressure Balance across the PTFE Filter Destruction System

NOTES

Note 1: The composition of the exhaust scrubber off-gas changes over time due to chemical reactions which take place in the scrubber. Gas composition (% w/w) is 0.32% CO_2, 0.17% HF, 34.83% O_2 and 64.68% N_2 at the minimum flow rate, and
79.06% CO_2, 0.04% HF, 7.32% O_2 and 13.59% N_2 at the maximum flow rate.

Note 2: Moisture trap to be supplied complete with integrated automatic drain valve, which does not allow release of off-gas during drainage, only moisture.

Note 3: Estimated to be 5% of water present in feed gas to wet scrubber upstream of moisture trap, taking note that the scrubber also contains an integrated demister to prevent liquid entrainment in the off-gas stream.

ENGINEERING SERVICES DEPARTMENT

MOISTURE TRAP SPECIFICATION SHEET

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Project	PTFE Filter Destruction Project	**Unit Tag Number**	Y83153
Datasheet Document No.	ENS-FDP-SPE-24044	**Revision**	1.0

	Name	Signature & Date
Compiled by	B Khumalo (Senior Process Engineer)	Signed by Bheka Khumalo, bheka.khumalo@necsa.co.za 10/10/2024 14:37:05(UTC+02:00) SIGNIFLOW
Checked	MB Msane (Mechanical Engineer)	Signed by Manqoba Msane, Manqoba.Msane@necsa.co.za 10/10/2024 14:39:27(UTC+02:00) SIGNIFLOW
Checked	M Correia (Senior Process Engineer)	Signed by Michelle Correia, correiam2504@gmail.com 10/10/2024 09:33:28(UTC-04:00) SIGNIFLOW
Checked	G Manuel (Chief C&I Engineer)	Signed by Grant Manuel, grant.manuel@necsa.co.za 14/10/2024 09:12:56(UTC+02:00) SIGNIFLOW
Checked	S Mngoma (Chief Mechanical Engineer)	Signed by Sibongeleni Mngoma, Sibongeleni.mngoma@necsa.co.za 14/10/2024 10:45:11(UTC+02:00) SIGNIFLOW
Checked	W van den Berg (Chief Electrical Engineer)	Signed by Willem Van Den Berg, willem.vandenberg@necsa.co.za 15/10/2024 08:17:12(UTC+02:00) SIGNIFLOW
Approved	K Moodley (Chief Process Engineer)	Signed by Kasuren Moodley, kasuren.moodley@necsa.co.za 15/10/2024 08:33:54(UTC+02:00) SIGNIFLOW
Distribution	1. ES Records 2. Docman 3. Dr K Moodley 4. Mr D Ngwenya	

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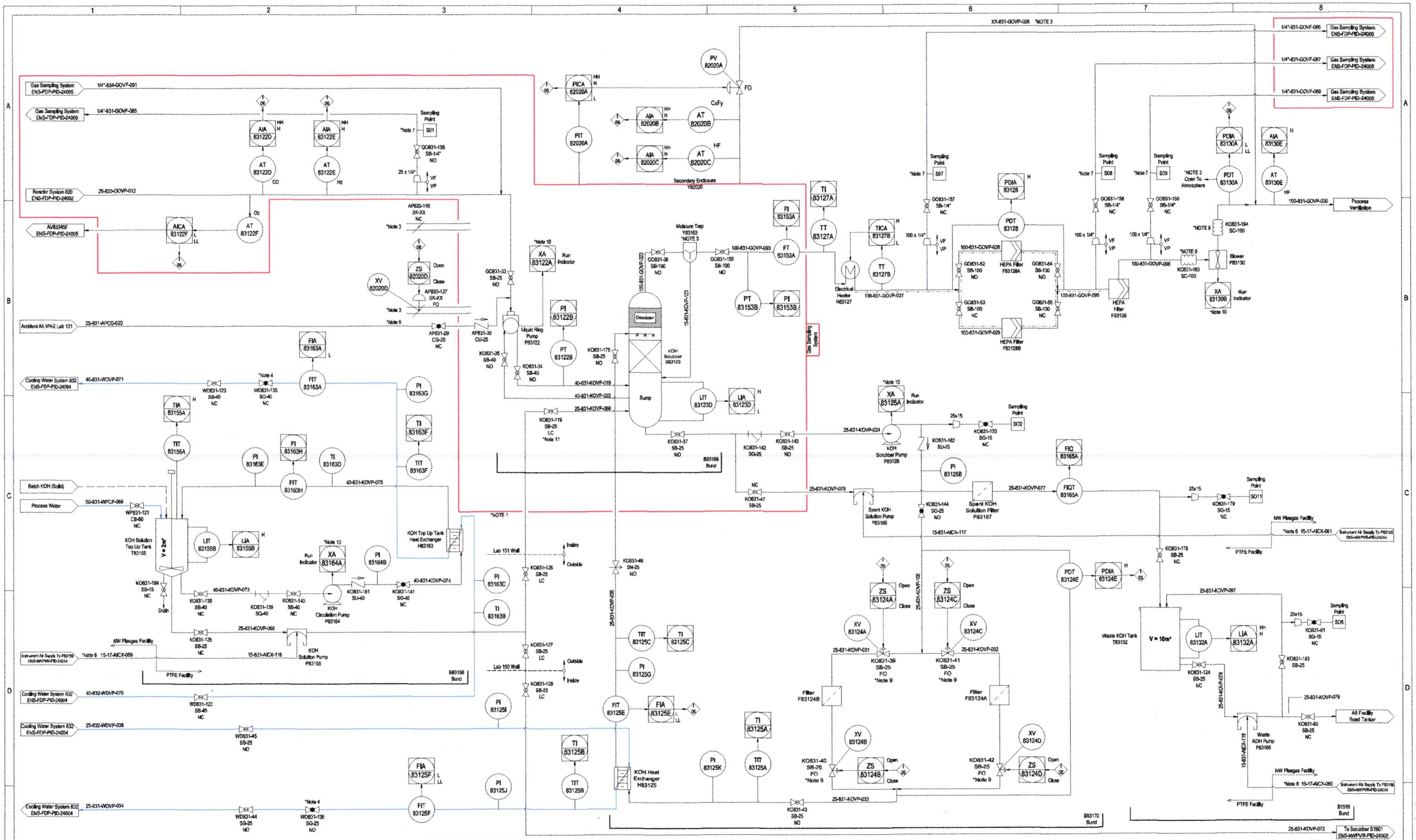

REFERENCED P&IDs & DOCUMENTS
1) ENS-FDP-PID-24002 - Reactor System 820
2) ENS-MWPVR-PID-24002 - NW Plasgas Demonstration Plant Subsystem 15
3) ENS-FDP-PID-24004 - Cooling Water System 832
4) ENS-FDP-PID-24005 - Gas Supply System 833
5) ENS-MWPVR-PID-24014 - Compressed Air Supply To Lab 150 And 131
6) ENS-FDP-PID-24006 - Gas Sampling System

FUNC.	NAME	DESIGNATION	SIGNATURE
PRP'D	N.Mokoena	Process Engineer	
CHK'D	M.Mashaya	Process Engineer	
CHK'D	M.Correia	Senior Process Engineer	
CHK'D	S.Mngoma	Chief Mechanical Engineer	
CHK'D	G.Manuel	Chief Engineer Control & Instrumentation	
CHK'D	W. van den Berg	Chief Electrical Engineer	
APPR'D	K.Moodley	Chief Process Engineer	

REV	DESCRIPTION	PRP'D	DATE
3.0	Third revision - Updated flow indicators FB3163H and FB3165A to FIT83163H and FIQT83165A respectively	N.M	22/10/2024
4.0	Fourth revision - Updated the needle to globe valves to the primary cooling water return lines	N.M	13/02/2024
5.0	Fifth revision - Addressing outstanding HAZOP3 recommendations	N.M	24/03/2025

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PROJECT	PTFE FILTER DESTRUCTION PROJECT		
TITLE	P&ID DIAGRAM		
	KOH SCRUBBER SYSTEM 831		
SCALE - NTS	DRG.No.	ENS-FDP-PID-24003	
UNITS - mm	SHEET	1 OF 1	TEAMCENTRE No. -

DESTROY ALL PREVIOUS PRINTS
CODE NO 5.0
REVISION

ENS-FDP-PID-24003

NOTES:
1. SECONDARY ENCLOSURE IS A CONTINUATION OF THE SAME BOX IN DRAWING NO.ENS-FDP-PID-24002.
2. PRESSURE DIFFERENTIAL MEASURED AGAINST THE ATMOSPHERIC PRESSURE.
3. LINE AND DAMPER SIZES TO BE DETERMINED DURING DESIGN OF THE VENTILATION SYSTEM.
4. THE GLOBE VALVES ARE USED TO SET THE CORRECT WATER FLOW RATE TO THE RESPECTIVE USERS AND NOT AS SHUT-OFF/ISOLATION VALVES. ONCE CORRECT FLOW RATE IS ESTABLISHED, THE VALVES ARE LOCKED IN POSITION.
5. THE MOISTURE TRAP Y83153 MUST DRAIN AUTOMATICALLY BACK TO THE SCRUBBER SUMP.
6. LINE SIZE TO BE CONFIRMED DURING DESIGN OF THE INSTRUMENT AIR SUPPLY SYSTEM.
7. GAS SAMPLES TO BE TAKEN AT THE TOP AND IN THE MIDDLE OF THE PROCESS PIPING TO PREVENT CONDENSATION OF MOISTURE. HF IN THE SAMPLE LINE.
8. THE BLOWER P83130 IS SITUATED BETWEEN THE TWO BELLOWS TO MINIMIZE VIBRATIONS.
9. ALL ACTUATED VALVES CAN BE OPENED/CLOSED REMOTELY FROM SCADA SCREEN IN THE CONTROL ROOM AND THE VALVE STATUS IS DISPLAYED ON SCADA SCREEN IN THE CONTROL ROOM.
10. THE STATUS OF RUN INDICATOR XA83164A, XA83122A, XA83126A AND XA83130B ARE DISPLAYED ON SCADA SCREEN IN THE CONTROL ROOM.
11. VALVE KO831-119 IS LOCATED AT THE SUMP TANK OF SCRUBBER S83123, INSIDE THE SECONDARY INCLOSURE IN THE PTFE FACILITY.