

## Section II: Schedule of Requirements

eSourcing reference: RFQ/2021/25131

### A. Summary of Requirements :Oxygen Plant

Item No	UNOPS minimum technical requirements	Quantity	Is bid compliant? Bidder to complete	Details of goods offered. Bidder to complete
1	Supply and installation of Duplex PSA Oxygen generator with filling station(refer oxygen plant features and specification under documents)	2	<input type="checkbox"/> Yes <input type="checkbox"/> No	Insert details of goods offered, including specifications and brand/model offered if applicable

### B. Technical specifications for Goods and Comparative Data Table

Item No	UNOPS minimum technical requirements	Quantity	Is quotation compliant? Bidder to complete	Details of goods offered. Bidder to complete
1.	<b><u>SYSTEM DESCRIPTION:</u></b>		<input type="checkbox"/> Yes <input type="checkbox"/> No	Insert details of goods offered, including specifications and brand/model offered if applicable
2.	PSA Oxygen Generator	2		
3.	Rotary Screw Air Compressor with Integrated Refrigerated Air Dryer	2		
4.	Air Receiver 120 Gallon with Pressure Relief Valve Assembly and Electronic Tank Drain	2		
5.	Oxygen Receiver 120 Gallon with Oxygen Line Regulator, Pressure Relief Valve Assembly, Bacteria Filter and Auto Shutdown Solenoid Valve	2		
6.	Interconnecting Piping & Electrical with Main Electrical Breaker Panel			
7.	Oxygen Compressor	2		
8.	10 Valve High Pressure Oxygen Cylinder Filling Manifold with 20 BSP and 2 pin index Pigtails and Steel Cylinder Rack with Safety Chains	2		
9.	Cylinder Evacuation Vacuum Pump w/ 4 Valves & BSP Adaptors	2		
10.	Digital Flow Meter Assembly.	2		
11.	This plant will be manufactured and tested to the climatic conditions of the site in Nigeria.			
12.	<b><u>MINIMUM BID SUBMISSION REQUIREMENTS</u></b>			

13.	<b><u>PSA OXYGEN GENERATOR SPECIFICATIONS</u></b>			
14.	Touch Screen Control Panel with Integrated Oxygen Monitor, Audible Low Purity Alarm. Includes Air Filtration Package consisting of Particulate Pre-Filter, Coalescing Filter 0.01 micron & Carbon Adsorption Filter.			
15.	Product flow rate (Total): < 1100 SCFH, (26.29 - 34.18 Nm <sup>3</sup> /hr or 471 - 613 LPM)			
16.	Product O <sub>2</sub> delivery pressure: < 2100 PSIG			
17.	Product Purity: USP 93%			
18.	Cylinder filling capacity: < 120 per 24hrs.			
19.	Oxygen Receiver characteristics: Total capacity < 220 gallons, with Oxygen Line Regulator, Pressure Relief Valve Assembly, Bacteria Filter and Auto Shutdown Solenoid Valve			
20.	Average Power Consumption: 2.2 kWh ± (5%) per Nm <sup>3</sup> of product O <sub>2</sub> at 151 Bar			
21.	<b><u>AIR COMPRESSOR SPECIFICATIONS.</u></b>			
22.	Air Compressor included for elevation: 5899 ft, 80 deg F & 80RH.			
23.	Ready-to-run, fully automatic, super silenced vibration damped, all panels powder coated. Suitable for use in ambient temperatures up to +45°C			
24.	User Interface: Touch screen, PC architecture, offers the capability of Dual, Quadro, Vario and continuous control.			
25.	User interface automatically controls and monitors the compressor package. The interface enables exchange of data and operational parameters allowing air manager.			
26.	Interfaces should be provided as standard for connection of modem or printer, a second compressor in base-load sequencing mode and for connection to data networks			
27.	Drive: 1:1 direct drive, high flex coupling without gearing.			
28.	Rotary screw compressor or equivalent.			
29.	Integrated refrigerated air dryer ( <i>This may be provided as a standalone item</i> )			
30.	Maximum working pressure: 7.5-13 bar			
31.	Power: 30-50Kw, 3 phase, 380v/ 50Hz			
32.	Sound level: 65-70 db(a)			
33.	Sound insulated.			
34.	Cooling: Fluid and air flow cooling.			
35.	In built oil separation system.			
36.	Total Air receiver capacity: < 220 gallons, with pressure relief valve and electronic tank drain			
37.	<b><u>OXYGEN CYLINDER FILLING COMPRESSOR SPECIFICATIONS</u></b>			
38.	Maximum discharge Pressure: <2500 PSIG			
39.	Cooling: Air			

40.	Number of stages: 1 to 3			
41.	Maximum RPM: 400-900rpm			
42.	Lubrication Type: Oil Free			
43.	Safety Control: High Pressure safety shut down.			
44.	<b><u>ELECTRICAL POWER REQUIREMENTS</u></b>			
45.	PSA Unit: Approximately 2 x 0.6 kW (220V / 50 Hz / 1 phase)			
46.	Feed air Compressor: Approximately 2 x 30 kW (380V / 50 Hz / 3 phase)			
47.	Feed air refrigerated dryer: Included with Air Compressor, If standalone: Approximately 2x1.7 kW (220V/50Hz/1 phase)			
48.	Oxygen Compressor: Approximately 2 x 7.5 kW (380V / 50 Hz / 3 phase)			
49.	<b><u>CERTIFICATION &amp; STANDARDS OF CONSTRUCTION</u></b>			
50.	ISO 9001:2008, ISO 14001:2004, ISO 12500, ISO 8573			
51.	STANDARDS: NEMA, ASTM, ASME			
52.	CE APPROVED			
53.	<b><u>SYSTEM FEATURES</u></b>			
54.	Complete turnkey system, with automatic stop/start. Energy efficient process design.			
55.	Reliable, accurate, continuous online oxygen purity monitor with alarm. Auto system shutdown if the monitored oxygen purity falls below preset limits.			
56.	Easy to operate and maintain. With proper maintenance, the unit should provide over 10-15 years of service.			
57.	Warranted against defects in materials and workmanship for a period of two year after commissioning or 26 months after shipment, whichever is first.			
58.	2-year consumable spare parts for PSA system, Air Compressor and oxygen cylinder filling compressor included in the offer.			
59.	Additional necessary emergency spare parts should be included			
60.	<b><u>Requirements: Delivery and Installation:</u></b>			
61.	Proposed schedule of manufacture, shipping, clearing, transportation to site, installation, testing, commissioning, and training.			
62.	24/7 Local presence in Nigeria or a long-term service agreement with a local biomedical engineering company.			
63.	At least 5 years presence in Nigeria.			
64.	Shortest delivery period desirable.			
65.	Installation cost included in offer.			
66.	<b><u>TRAINING.</u></b>			
67.	Training offered for 2 engineers to ensure transfer of technology and also future maintenance.			
68.	5 days minimum full factory training.			

69.	Training scope: Assembly, maintenance, repair and service of the Oxygen generator, compressors and refilling station.			
70.	<b>PRICE OF DELIVERY TO INCLUDE</b>			
71.	DAP to Maiduguri and Bui Hospitals (necessary logistical arrangements related to getting the goods in the location indicated. Including Import Clearance Services & Unloading ).			
	<b>ALL BROCHURES, MANUALS, CERTIFICATIONS, WARRANTY DOCUMENTS AND SPECIFICATIONS SHOULD BE PROVIDED</b>			

### C. Delivery requirements and Comparative Data Table:

UNOPS Requirements		Is bid compliant? Bidder to complete	Details Bidder to complete
<b>Delivery time</b>	Bidder shall deliver the goods within <b>8 Weeks</b> after Contract signature.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<a href="#">Insert details</a>
<b>Delivery place and Incoterms rules</b>	1.DAP State Specialist Hospital Maiduguri 2. DAP General Hospital Bui  Bidder shall facilitate all the necessary logistical arrangements related to getting the goods in the location indicated. Including Import Clearance Services & Unloading  Delivery and installation at State Specialist Hospital, Maiduguri and General Hospital, Bui.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<a href="#">Insert details</a>
<b>Consignee details</b>	The Project Manager, UNOPS, Nigeria  Attn: Atinuke Adeoti Fakunle	<input type="checkbox"/> Yes <input type="checkbox"/> No	<a href="#">Insert details</a>
<b>UNOPS Right to vary requirements</b>	At the time the Contract is awarded, UNOPS reserves the right to vary the quantity of the goods and associated services specified above, provided this does not exceed +/- 20%,without any change in the unit prices or other terms and conditions of the ITB.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<a href="#">Insert details</a>

### Consignee-wise quantity distribution –Not Applicable

Line item/ lot N°	Consignee address	Quantity	Unit
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[insert item No]	[insert consignee address]	[insert quantity of item to be supplied]	[insert physical unit for the quantity]

#### D. Related services requirements

Service	UNOPS minimum requirements for services	Quantity	Physical unit	Place where services will be performed	Final completion date(s) of services
Supply, installation, Training and commissioning of a Duplex Medical Oxygen Generator with Cylinder filling capacity.	Factory training for at least 2 BMETs.	At least 5 days training on Assembly, trouble shooting, repair and maintenance and service.	This training will be on the PSA system, the Air Compressor system and Oxygen compressor system	Manufacturer's assembly factory and/or different assembly sites for the different systems.	After successful award of contract and before delivery and installation
	System will be installed and commissioned by the manufacturer	Maximum of 2 days each to install and commission. All other external provisions provided	Entire PSA system, Air compressor, Oxygen filling compressor system.	At State Specialist Hospital at Maiduguri and Biu, Nigeria	2 days each after delivery of the entire system to the designated sites.
	System will have 2 year warranty	From date of successful commissioning	Entire PSA system, Air compressor, Oxygen filling compressor system	At State Specialist Hospital at Maiduguri and Biu, Nigeria	2 years after successful installation and commissioning.
	System will be supplied with 2 year consumable spare parts and additional necessary emergency spare parts	Specific service kits to cover a 2 year period. All required emergency spare parts as recommended by	Entire PSA system, Air compressor, Oxygen filling compressor system	At State Specialist Hospital at Maiduguri and Biu, Nigeria	To be supplied with the entire system

		manuf urer			
	The system must be ISO 9001:2008 and ISO 14001:2004 certified. CE approved				
	Proof of existing successful similar systems installed locally.	Minimum two PSA systems	Entire PSA system, Air compressor, Oxygen filling compressor system	West Africa	Minimum 3 years local presence.

**E. Drawings:** Not required for this tender

**F. Inspections and tests**

The following inspections and tests shall be performed:

The vendor must have the goods inspected in the manufacturer's works by a competent authority and submit a test certificate and also a guarantee/warranty certificate that the goods conform to written specifications.

If the goods fail to meet the laid down specifications, the supplier shall take immediate steps to remedy the deficiency or replace the defective goods to the satisfaction of the purchaser.