



## **REQUEST FOR PROPOSALS**

# **CONSULTANCY FOR SUPERVISION OF OXYGEN INFRASTRUCTURE WORKS AND PROVISION OF BIOMEDICAL ENGINEERING EXPERTISE IN FOCUS COUNTIES IN KENYA**

**AMREF HEALTH AFRICA IN KENYA**

**TENDER NO. AMREF/20/09/2024/019**

**TERMS OF REFERENCE FOR INDIVIDUAL BIOMEDICAL ENGINEERING  
CONSULTANTS**

**LOT TWO (2)**

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## 1 Introduction

Amref Health Africa invites sealed bids from eligible biomedical engineering firms and consultants to provide expertise to supervise various oxygen infrastructure works as per the lots below;

Lot No	Description
1	Biomedical Engineering Consultancy Firm to Provide Expertise on Oxygen Provision, Related Medical Equipment Deployment and Services
2	Biomedical Engineering Consultants (Individual) to Provide Expertise on Oxygen Provision, Related Medical Equipment Deployment and Services

This RFP document is only for Lot Number Two (2).

## 2 Amref Health Africa

Amref Health Africa, headquartered in Kenya, remains the largest Africa-based international non-governmental organisation currently running programmes in over 35 countries in Africa with lessons learnt over 60 years of engagement with governments, communities and partners to ensure sustainable health access in Africa. Amref Health Africa also incorporates programme development, fundraising, partnership, advocacy and communication offices in Europe and North America as well as subsidiaries including Amref Flying Doctors, Amref International University (AMIU) and Amref Health Innovations.

Amref Health Africa in Kenya is an independent non-profit, non-governmental organization (NGO) founded in 1957. The organization has footprint in all the 47 counties, that is both physical and through partners. Amref in Kenya believes that the power for lasting transformation of Africa's health lies within its communities and works side by side with individuals in communities to empower them to build the knowledge, skills and means to transform their own health.

Amref Health Africa's Strategy Goal is to advance Africa's health by catalyzing an evidence-based movement aimed at reducing the gap between communities and the rest of the health system using a series of programme drivers that are crosscutting and process-based. The programme themes that will lead to realization of the strategy are partnership with communities for better health; building capacity for strengthened communities and health system responsiveness and health systems research for policy and practice.

Amref Health Africa's vision is for lasting health change in Africa and is committed to improving the health of people in Africa by partnering with and empowering communities, and strengthening health systems. Our mandate is executed through a systems approach through the following programme areas: HIV/AIDS, TB and Malaria, Health Systems Strengthening (HSS), WASH & NTDs, RMNCYAH, and Non-Communicable Diseases.

### 3 Background:

Since COVID, Oxygen has emerged as one of the essential commodities in the management of COVID-19 specifically for cases requiring breathing support making it critical to have adequate and consistent supply.

Pre-COVID-19, availability of oxygen was low across Kenya particularly in the public health facilities estimated at 16%, and where available the supply has not been optimal and lacked the necessary distribution and delivery infrastructure to the user points. Some progress has been reported in the recent past as counties and facilities have established infrastructure to support oxygen therapy. Some installed oxygen-generating plants, a few installed bulk liquid oxygen tanks while others set aside resources to procure more oxygen in cylinders as well as investments in the diagnostic tools in the form of pulse oximeters.

Despite these investments, access barriers have been observed. In places where onsite generating plants are available, these were piped to one or two units therefore limiting supply to a few patients. Equipment failure and lack of spare parts have also been reported in this category. Where cylinders are used, these are by the bedside per patient- a situation to improve..

Amref Health Africa in Kenya through the Global Fund COVID-19 Response Mechanism (C19RM) is supporting the following infrastructure works;

1. Supply of oxygen through procurement of liquid oxygen, onsite generating PSA plants and cylinders;
2. Installation of high-volume supply capacity through bulk liquid tanks, PSAs and centralized manifolds accompanied by oxygen piping to bed outlets; and
3. Supply of oxygen therapy kits (humidifiers, regulators, flow meters) to facilities using cylinders.

In this regard, Amref Health Africa in Kenya seeks to recruit biomedical engineering Consultants to provide expertise to supervise the above infrastructure works. The consultants will work closely with Amref Health Africa in Kenya team, Ministry of Health, and the County Health Departments.

### 4 Key Tasks:

The biomedical engineering consultant(s) will provide technical supervision to the contractors in the provision of oxygen in the focus counties in Kenya. The consultant will work closely with the Amref team to ensure the installation and commissioning of the procured equipment for delivery of oxygen takes place at identified sites.

The assignment requires travels to various sites as per the clusters listed in Annex 1.

The successful consultant(s) will be allocated facilities in any of the clusters listed in Annex 1 (to be determined by Amref Health Africa) and contracted to supervise the facilities in each cluster(s) and will be expected to make at least 3 trips per facility in the cluster awarded as per the stages indicated in 5.1 of this document and cover at least 2 facilities per day owing to most of them being in close proximity.

## 5 Key Responsibilities:

### 5.1 Reporting to the Amref Oxygen Project Team:

The individual BME consultant(s) shall;

1. Prepare and submit an inception and implementation plan per LOT;
2. Provide working Schedule and supervision plans in form of a gantt chart. This shall be project overview and scope abstract' with methodology with measurable factors involved in a robust, safe and operations Medical Gas Piping System (MGPS) for Oxygen delivery.

#### 5.1.1 Stage 1: Preliminary:

1. Involving Facility and County Biomedical Engineers in suitable site identification, determination of terminals outlets points and taking measurements for the piping and oxygen supply installation requirements. This will be done if need for assistance is identified by a contractor.
2. Ensure all sites are ready for the insatallation of Liquid oxygen, PSA plants and piping & manifold systems by providing working drawings to the contractors, for each site using information from the Amref Oxygen Project Team, Provided BoQs and the county BMEs data.
3. Thorough inspection of Equipment for quality and standards compliance for each component of the oxygen ecosystem and supply network. - e.g. Plants, Cryogenic LiOX Tanks systems, manifolds, copper pipes and outlets as well as electrical standards for the power panels.
4. Inspection for compliance with the standards and Memoranda like HTM 02 part 2, ISO 7396-1: 2016 and ISO 13485 (Medical Gas Piping System installation, tests and compliance assessments) for the materials, installation process and on installed and commissioning works.
  - a. These shall include but not limited to the following;
    - i. Handling to maintain the inertness of the copper pipes and outlets as well as the manifolds.
    - ii. Pipeline cacarsing, chasing and trunking workmanship acceptance.
    - iii. Harnessing infrastructure and standards such as height and anchoring strength.

#### 5.1.2 Stage 2: Work Supervision:

The Consultant will share traveling plans for each site to be visited for approval by contractors and Amref Oxygen Project Team.

1. Provide a signed and stamped site attendance sheets as a proof the site visit.
2. Dully fill the provided supervision template with the following considerations;
  - Inspect, qualify and quantify the delivered materials, equipment and machines and create inventory for the same at all sites.
3. Adhere to work ethics in all sites.
4. Ensure work schedules are adhered to and manage variances in time, scope and budget.
5. Involvement of the appointed site managers (e.g County/facility Bio Medical Engineers, public works officers among others) in work harmonization.
6. Submit weekly reports of work progress and manage contractors' activities to achieve set project timelines and standards.

7. Ensure compliance to medical gases work safety at work regulations and rules.
8. Provide an appraisal report on the performance of the contractors.

### **5.1.3 Stage 3: Testing, Commissioning and Handing Over:**

1. Jointly with the Contractor conduct and document Testing and commissioning of oxygen provision in the facilities. This shall include but not limited to the following (as per HTM 02 part 2, ISO 7396-1: 2016 and ISO 13485 standards);
  - Pressure tests
  - Leakage test method and compliance values
  - Flow rate test method and results
  - Oxygen purity and cleanliness.
  - Interaction, compatibility and automatic changeability to the other primary or secondary sources of oxygen.
  - Confirm that the User and Technical training for BMEs has been conducted and countersign training certificates/reports.
  - Draw and adapt a monitoring tool for maintenance schedule during the Contractors warranty period.
2. Facilitate contractors work handover reports to Amref Oxygen Project Team for sign off of the completed works.
3. Submit final project report to the Amref Oxygen Project Team for review.

## **6 Amref Health Africa Obligations**

Amref Health Africa will facilitate the successful consultant(s) with the following;

1. Transport to and from the facilities
2. Accommodation
3. Lunch, Dinner and Out of Pocket allowances as per Amref Rates

## **7 Period of Performance**

The implementation period is expected to run from November 1<sup>st</sup> 2024 to December 12<sup>th</sup> 2025 or until the contractors complete the assigned works, whichever comes first. The contract shall come to an end at the closure of the assigned works (tie the consultant to the assigned vendors' works)

## **8 Deliverables:**

1. Site inspection reports
2. Work supervision reports
3. Signed Off Installation and variation management.
4. Endorsed Testing and commissioning report
5. Endorsed Completion Certificates and reports.

## 9 Specific Instructions:

1. Complete sets of tender documents can be downloaded from Amref Health Africa website; <http://amref.org/tenders/> by interested bidders upon payment of non-refundable fee of **Ksh.1,000 PER LOT**. The payment should be made through the following Bank account(s): **Kenya Commercial Bank, Kipande House Branch, Account No: 1111429243 OR National Bank of Kenya, Wilson Branch, Account No: 01020058235400 or via MPesa Paybill 890750, Account AMREF /20/09/2024/019**
2. The bidders will then attach the Mobile money deposit receipt/ original banking deposit slip as proof of purchase of tender documents.
3. Completed tender documents for preliminary and technical requirements are to be enclosed in a plain envelope (each LOT in a separate envelope) marked with the tender reference number and tender name. The financial bid **MUST** be in a separate envelope marked with the tender reference number, tender name, vendors name and vendors contact details. The financial bid will only be opened for those bidders who will have qualified in the technical evaluation). Please note that only one complete tender document is required (Do not provide additional copies per lot).
4. Tenders must be delivered to the address below not later than **Friday 4<sup>th</sup> October 2024 at 12.00 noon**.
5. Tenders should be dropped at the **Amref Health Africa Kenya Country Office Big Tender Box** at the **Main Reception**. Tenders will be opened at 12 noon on the closing date in the presence of the Tenderers' representatives who choose to attend at the Amref Health Africa Large Lecture room. Electronic bidding will not be permitted. **No bids will be accepted after 12 noon on the closing day.**
6. Prices quoted should be inclusive of VAT and all other applicable taxes and must be in Kenya Shillings and shall remain valid for 90 days from the closing date of the tender. The prices in your financial quotation should be broken down as follows: **(Do not key in your financial quotation in this section)**.
  - i. Daily Consultancy Rate
  - ii. Less 5% Withholding Tax
  - iii. Net Consultancy Fee

**NOTE: Global Fund grants are tax exempt. Bidders will be required to submit quotations inclusive of 16% VAT. Payment(s) to the successful bidder(s) shall be made in total exclusive of VAT and tax exemption certificate will be issued accordingly. Successful applicants shall be required to submit proforma invoice and valid tax compliance certificate upon receipt of LPO for processing of specific VAT exemption certificate.**

## 7. Validity of Tenders.

Tenders shall remain valid for 90 days after date of tender opening prescribed by Amref Health Africa. Tender valid for a shorter period shall be rejected by Amref Health Africa as non- responsive. In exceptional circumstances, Amref Health Africa may solicit the tenderers consent to an extension of the period of validity. The request and the responses thereto shall be made in writing.

The tenderer may refuse the request. A tenderer granting the request will not be required nor permitted to modify its tender.

## 8. Pre-Bid Conference

Interested eligible bidders are also invited for a pre-bid conference to be on **Tuesday 24<sup>th</sup> September 2024** starting **10 a.m. to 11 a.m.** To access the Link for registration for the pre-bid conference, log onto Amref Health Africa website <http://amref.org/tenders/>



## 10 Eligibility Requirements and Technical Specifications:

### 10.1 Preliminary Evaluation Criteria:

Proposals received will be evaluated based on the below criteria.

Bids **lacking any of the documents** below will be considered as non-responsive and therefore will be eliminated at this stage.

No.	Mandatory Requirements	Score
1.	Provide a proof of a higher national diploma or degree in biomedical engineering technology or industrial engineering with a biomedical engineering option	1 or 0
2.	Provide a detailed CV detailing your qualification and expertise	1 or 0
3.	Provide a copy of certification / membership to Association of Medical Engineers(AMEK) or Engineering Board of Kenya (EBK)	1 or 0
4.	Copy of valid KRA PIN Certificate	1 or 0
5.	Must attach Proof of purchase of the tender document- mobile money receipt/ bank deposit slip	1 or 0
<b>(Bids missing any one of the 5 requirements listed above shall be disqualified at this stage.)</b>		

**10.2 Technical Evaluation Criteria:**

No.	Technical Requirements	Max Score	Score
1.	<p><b><u>Work experience</u></b></p> <p>Provide a detailed CV to show experience in conducting and/or supervising similar works of installation of medical oxygen plants, equipment, piping infrastructure and therapy services.</p> <ul style="list-style-type: none"> <li>i. Over 5 years relevant experience-----15 Marks</li> <li>ii. With 3 to 5 years relevant experience-----7 Marks</li> <li>iii. With under 3 years relevant experience-----2 Mark</li> <li>iv. Not provided/irrelevant-----0 Mark</li> </ul>	<b>15</b>	
2.	<p>Attach recommendation letters/service certificate/ contracts for completed consultancies/assignments (or ongoing works) from previous clients, in the last 5 years (from 2019) with work related to the field of biomedical engineering with proof of medical gases piping system related services <b>[10 Marks]</b></p> <ul style="list-style-type: none"> <li>i. Not provided/Irrelevant----- (0 mark)</li> <li>ii. Only 1 assignment----- (1 mark)</li> <li>iii. 2 assignments -----(5 marks)</li> <li>iv. 3 assignments or more -----(10 marks)</li> </ul>	<b>10</b>	
3.	<p>Provide proof of training on oxygen systems, medical oxygen equipment, medical oxygen devices, oxygen related equipment installations, maintenance and/or their relevant regulations as well as standards in MGPS.</p> <ul style="list-style-type: none"> <li>i. Provided -----10 Marks</li> <li>ii. Not provided/irrelevant-----0 Mark</li> </ul>	<b>10</b>	
<b>Total Marks</b>		<b>35</b>	

**NB: The pass mark for technical evaluation will be at least 26marks out of 35marks. Bidders who score below the pass mark will be considered non-responsive and will not move to the next evaluation stage (financial evaluation).**

## SECTION B

### Financial Proposal: (To be enclosed in a separate envelope)

(must be in Kenya Shillings)

<b>Item Description</b>	<b>Daily Consultancy Fee Rate (Kshs.)</b>
BME Consultant Daily Rate	
Less 5% Withholding Tax	
Net Consultancy Fee	

Annex 1: Scope of Works

CLUSTER	COUNTIES	NAME OF FACILITY
1	Garissa	Iftin Sub County Hospital
		Modogashe Sub County Hospital
	Mandera	Lafey Sub County Hospital
	Wajir	Eldas Sub County Hospital
		Griftu District Hospital
		Bute District Hospital
		Tarbaj Sub County Hospital
2	Samburu	Kisima Health Centre
		Samburu County Referral Hospital
		Archers Subcounty Hospital
	Laikipia	Laikipia Nanyuki Teaching and Referral Hospital
		Kinamba Sub County Hospital
	Nakuru	Elburgon Sub County Hospital
		Kabazi Sub County Hospital
		Molo Sub County Hospital
		Nyamamithi Health Centre
		PGH Annex Level 4 Hospital
		Subukia Sub County Hospital
		Bahati Sub County Hospital
		Gilgil Sub County Hospital
		Kiptangwany Health Centre
		Njoro Sub County Hospital
Olenguruone Hospital		
Sachangwan Health Centre		
3	Kericho	Ainamoi Level 3 Hospital
		Londiani Sub County Hospital
		Sosiot Health Centre
		Forttenant Sub County Hospital
		Roret Hospital
		Sigowet Sub County Hospital
		Unilever Hospital
	Narok	Oloolunga Sub County Hospital
		Nairage Enkare Health Centre
		Lolgorian Sub County Hospital
		Emurua Dikirr Sub County Hospital
	Bomet	Kapkoros Hospital

		Kaplong St Claras Mission Hospital
		Sigor Sub County Hospital
		Cheptalala Sub County Hospital
		Koiwa Sub County Hospital
		Ndanai Sub County Hospital
4	Busia	Khunyangu Sub County Hospital
		Port Victoria Hospital
		Teso North Sub County Hospital
		Nambale Sub County Hospital
		Sio Port Sub County Hospital
	Siaya	Ambira Sub County Hospital
		Rwambwa Sub County Hospital
		Bondo County Referral Hospital
		Yala Sub County Hospital
	Kisumu	Chulaimbo Sub County Hospital
		Katuitu Sub County Hospital
		Lumumba Sub County Hospital
		Muhoroni County Hospital
		Nyakach County Hospital
		Kisumu County Referral Hospital
		Ahero Sub County Hospital
		Gita Sub County Hospital
		Kombewa Sub County Refferal Hospital
		Manyuanda Sc Hospital
Nyahera Sub District Hospital		
Nyamarimba Sc Hospital		
<b>CLUSTER</b>	<b>COUNTIES</b>	<b>NAME OF FACILITY</b>
5	Turkana	AIC Kalokol
	Nakuru	Our Lady of Mercy Mission Hospital
	Uasin Gishu	Rcea Plateau Uasin Gishu
	Nandi	Mother Francisca Mision Hospital
	Trans-Nzoia	St. John's Mission Hospital Sirende
	Baringo	Mercy Mission Hospital
	West Pokot	Chesta Dispensary
	Elgeyo-Marakwet	Chesongoch Mission Hospital
	Narok	St. Joseph Mission Hospital Kilgoris
	Kericho	Litein AIC
6	Kwale	Sisters of St. Joseph Catholic Dispensary
	Mombasa	Mewa Hospital

	Lamu	Maria Teresa Nuzzo
	Mombasa	Mbungoni Catholic Dispensary (Cbhc)
	Kilifi	Tawfiq Muslim Hospital
	Kilifi	Oasis Medical Center
	Tana River	Daba AIC Dispensary
	Taita–Taveta	St. Joseph Shelter of Hope, Voi
	Kitui	Muthale Mission Hospital
	Makueni	Kikoko Mission Hospital
	Mandera	Mandera North Sub County Hospital (Rhamu)
	Garissa	Sister Maternity Homses (Simaho)
7	Embu	Consolata Hospital Kyeni
	Meru	Christian Community Services Dispensary
	Isiolo	Matercare Maternity Hospital
	Isiolo	Aic Dispensary
	Marsabit	Gatab Health Centre
	Laikipia	Pope Benedict Xvi Catholic Hospital Nyahururu
	Kajiado	Beacon of Hope Ongata Rongai
	Kirinyaga	Ack Mt Kenya Hospital
	Nyeri	Consolata Hospital Mathari
	Murang'a	Assumption of Mary Ithanga Health Center
	Kiambu	Nazareth Ruiru Hospital
	Kiambu	Kimende Orthodox Health Center and Maternity Home
8	Nairobi	St.Scholastica Uzima Hospital
	Kisii	Gesusu SDA Dispensary
	Nyamira	Itibo Adventist Mission Hospital
	Migori	St Joseph Mission Hospital Migori
	Homa Bay	St Paul's Mission Hospital
	Kisumu	Ack Maseno
	Kisumu	Awasi Catholic Mission Dispensary
	Siaya	Dolphin Nursing Home
	Kakamega	Namasoli Health Center
	Vihiga	Itando Mission Hospital
	Busia	Namboboto ACK
	Bungoma	Icfem Dreamland