



Request for Proposals (RFP): Design, Supply, and Installation of Healthcare Waste Incinerator in the Zambia National Public Health Reference Laboratory.

RFP Issue Date: November 19th, 2021

Proposal Due Date: December 20th, 2021

Submissions due to

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And

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Association of Public Health Laboratories | Analysis. Answers. Action.

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APHL Zambia, 52 Paseli Road, Northmend, Lusaka, Zambia

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Summary

The Association of Public Health Laboratories, Inc. (APHL or the Association), in collaboration with the Zambia Ministry of Health (MOH) and the United States Centers for Disease Control and Prevention (CDC), anticipates assisting in various waste management projects at laboratories/healthcare facilities across Zambia. APHL expects to install one healthcare waste treatment incinerator at the Zambia National Public Health Reference Laboratory (ZNPRL) to assist in the management of waste generated from SARS-Cov-2 testing. APHL is looking to identify and select an applicant to work with the APHL and CDC to deliver, install and commission this technology to better manage the waste emanating from this facility.

Background

APHL is a non-profit organization that works to safeguard the public's health by strengthening public health laboratories (PHLs) in the United States and globally. APHL is organized under the laws of the United States of America's District of Columbia with its headquarters office at 8515 Georgia Avenue, Suite 700, Silver Spring MD 20910. The Association's members include state and local laboratories, state environmental and agricultural laboratories and other government laboratories that conduct testing of public health significance. APHL is recognized as tax exempt in the United States under Section 501(c)(3) of the U.S. Internal Revenue Code and its work on behalf of PHLs spans more than 60 years.

In collaboration with its members, APHL advances laboratory systems and practices and promotes policies that support healthy communities globally. The Association serves as a liaison between the PHLs and federal and international agencies and it ensures that the network of PHLs has current and consistent scientific information in order to be ready for outbreaks and other public health emergencies.

The APHL Global Health Program (GHP) currently implements laboratory improvement projects in several countries throughout Africa and in parts of Asia and Eastern Europe. This support has allowed APHL to provide technical assistance to strengthen laboratory services in public health.

Maximum Compensation Amount

This award will be for an amount not to exceed maximum of \$165,000.

Anticipated RFP Schedule

Proposals are due to the individual(s) specified in the Final RFP Response section of this RFP by 5:00 pm Central Africa Time (CAT) on. APHL anticipates the following schedule for the entire competitive bidding process:

APHL issues RFP	November 19 th , 2021
Deadline to submit proposals	December 20 th , 2021

Evaluation committee completes review January 5th, 2021

APHL announces selection of vendor(s) January 7th, 2021

Anticipated start date of work by selected vendor(s): January 15th, 2022

Equipment delivered to Zambia April 15th, 2022

Final RFP Response

APHL must receive a complete proposal by no later than 5:00 PM Central African Time (CAT) on December 20, 2021. Applicants may send proposals by the following methods:

Via email to Clement Phiri (Clement.Phiri@zmb.aphl.org) and Sarah Snyder (sarah.snyder@aphl.org) or via certified, registered or express mail provided the postal service or trackable mail delivery services provided by DHL, FedEx, UPS and the like addressed to:

c/o Clement Phiri, Country Director APHL
Zambia,
52 Paseli Road, Northmend, Lusaka, Zambia
Tel: +260 211 296180

APHL will send an email acknowledging the receipt of your application. If you do not receive an acknowledgement within 48 hours, please email the points of contact above to confirm receipt.

Regardless of the delivery method, APHL must receive all responses at their Zambia offices by 5:00 PM CAT. It is the applicant's responsibility to ensure that the proposal is received by APHL by this deadline.

APHL may terminate or modify the RFP process at any time during the response period. All changes to the RFP will be posted to the APHL's procurement website, www.aphl.org/rfp.

Evaluation of Proposals

Initial Review

APHL staff members or consultants under contract with APHL will conduct an initial review of all proposals for completeness. APHL will not consider any incomplete applications.

Evaluation Team

An evaluation team will be assembled to evaluate competitive proposals and then assess their relative qualities based on an Evaluation Criteria that will look at experience, cost of the equipment location of company, ability to provide local services, and but not limited to quality of submission. Applicants may be interviewed by the evaluation team after submitting their complete RFP submission package.

Conflicts of Interest

APHL will ask potential reviewers to disclose any real or perceived conflict of interest prior to the start of the evaluation process or to affirm that they have no conflict of interest that would preclude an unbiased and objective review of the proposals received. APHL will not select a reviewer with a perceived conflict of interest. If a reviewer identifies a conflict of interest after the evaluation team has been assembled, APHL will exclude that reviewer from further participation in the review process and will eliminate the reviewer's completed reviews from the evaluation process. Reviewers will complete a Conflict of Interest Form administered before the evaluation process.

Supplemental Proposal Information

The evaluation team may request follow up interviews with applicants and/or supplemental information on an applicant's proposal. Once the evaluation team has additional material from the interviews and supplemental information, the team will evaluate whether this material alters the relative ranking of any individual applicant. If the consensus of the evaluation team is that the new material merits adjusting the applicant rankings, the team will do so. In this event, APHL will use the revised ranking to identify the Eligible Supplier(s).

APHL staff will notify each of the Eligible Supplier(s) by no later than the date noted in the Anticipated RFP Schedule above and will post the names of the successful applicants to its procurement website, www.aphl.org/rfp within one business day after it completes the notifications.

Unsuccessful applicants will receive notification of these results by e-mail or by regular postal service mail within 30 days of the date the names of the Eligible Suppliers are posted.

All applicants will be entitled to utilize APHL's Appeals Process to formulate a protest regarding alleged irregularities or improprieties during the procurement process. Specific details of the policy are listed on the procurement website.

Applicants must be able to contract directly with APHL or have an existing relationship with a third-party organization that can contract directly with APHL on behalf of the applicant.

Disclaimer and Other General Matters

This RFP is neither an agreement nor an offer to enter into an agreement with any applicant.

APHL will ensure that the Eligible Suppliers are neither suspended nor debarred from receiving United States federal funds and that the Eligible Suppliers meet any other funding eligibility requirement imposed by the Funding Agency. APHL's determination of whether an Eligible Supplier is eligible to receive funding will be definitive and may not be appealed. If APHL determines that one or more Eligible Suppliers are ineligible to receive funding, APHL will nullify the contract or will cease negotiation of contract terms.

Each applicant will bear its own costs associated with or relating to the preparation and submission of its application and as otherwise noted throughout this RFP. These costs and expenses will remain with the applicant, and APHL will not be liable for these or for any other costs or other expenses incurred by the applicant in preparation or submission of its application, regardless of the conduct or outcome of the response period or the selection process.

TECHNICAL SPECIFICATIONS for APHL Zambia

Country Background - Technical and Environmental Information for Potential Suppliers

The following information is provided so all suppliers can ensure the equipment they are offering to supply conforms to prevailing national climatic conditions. These include the following:

Electricity Supply	All Hospitals have single supplied as Phase 220 Volts 50 Hz
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Problems exist with mains fluctuations, approximately +/-10% in both the voltage and frequency supplied; some problems with mains cut-off (black-out); electric spikes exist, not necessarily on the main supply but when large plant items cut in such as lift motors. Applicant should check/modify their power supply units if necessary; or state if voltage stabilizers is required alongside their products.

Environment.	Height above sea levels average 4700. Suppliers should check whether this will affect motors, pressure vessels, etc.
Temperature:	Average temperature in winter inside Hospitals is 16 Degrees Celsius. Average Temperature in summer inside Hospitals is 32 Degrees Celsius
Humidity:	As a land locked country, and high above sea level, naturally humidity is not a serious problem.
Dust:	All Hospitals have a problem of dust getting into equipment and clogging up filters equipment may need additional filter protection.
Vermin	All Hospitals have a problem of rats chewing wiring, equipment will need metal vermin guards.
Language	All manuals are to be in English with both electronic and paper copies. All labels and markings on machines must be in English

Equipment for Healthcare Waste Treatment

The awardee will supply a containerized incinerator with a minimum capacity of 100 kg/hour, however, a 150kg containerized incinerator is preferred. This incinerator will be used for the treatment of the wide range of health care waste, including, but not limited to, infectious waste from wards and the clinical labs, sharps, pathological/placentas, and small amounts of liquid waste.

Perimeter fencing and water supply

The awardee shall provide a perimeter fencing with a lockable gate for access to the containerized incinerator unit to keep away dogs and any scavengers. A 1.5-meter perimeter fence is required and water tap shall be connected from the nearest water source to allow for cleaning of the incinerator.

GENERAL REQUIREMENTS FOR THE SUPPLY

Quantity: **One incinerator for healthcare waste.** The equipment must at least consist, of the following:

- (1) Requisite burning capacity incinerator for healthcare waste (See attached location/capacity)
- (2) One wear and spare parts package
- (3) Delivery and commissioning
- (4) Staff training
- (5) At least a two-year warranty minimum

The following requirements are considered an integral part of the technical specifications:

DOCUMENTS TO BE PROVIDED BY THE BIDDER

- A company profile that provides (i) the physical and postal address for the applicant's principal office in Zambia or, for international firms, its headquarters office and (ii) the name, title, business and/or mobile phone numbers and an email address for one or more contact persons.
Note: For international companies, please provide a company profile that states the physical and postal address for the applicant's local partner company that will provide in-country services, aftersales services, and maintenance.
- A description of the company that includes (i) a discussion of key staff members, their qualifications and experience, (ii) proof of the applicant's capacity to implement projects of comparable complexity, and (iii) any evidence of experience in project of similar size.
- Copies of the applicant's certificate of company registration or incorporation and any certificate of amendment to that registration/incorporation, together with evidence that the company is in good standing.
- Filled in Table of the Technical Specification (Bidder Statements – see below)
- Evidence of factory testing of performance and emission values for the incinerator by the producer or independent authorized institution.
- Implementation plan and training concept
- Maintenance Plan
- Site survey from an in-person site visit to ZNPHRL. APHL will assist applicant in coordinating this visit to the lab.
- Detailed List related to Wear and Spare Part Package for operation (items which will be included in the contract). The list should be detailed enough to allow the client to carry out a cost estimation.
- Other information such as process description, brochures, etc. should be only added if the information will be useful for the technical evaluation of the treatment process.
- Dimensions and weight of the containerized incinerator

- Cost breakdown for all items and services listed in the RFP including the supplies listed in Appendix B.

The Bidder is requested to fill in the following tables:

No	Specification	Specifications Offered (Must be answered)	Notes, remarks, ref to documentation	Evaluation Committee's notes (DO NOT FILL IN)
1.	Type of incinerator: diesel dual chamber, fully automatic process control, top or front loading. <i>Note on fuel: The primary fuel source is diesel.</i>			
1a.	Unit dimensions Unit Weight Minimum footprint for equipment Foundation requirements for equipment			
2.	Burning capacity: The unit must be a containerized unit with details of ground essential connection facilities such as plinth, water and electricity points. The minimum burning capacity is 100kg/hour.			
3.	Operating temperature: Primary Chamber: 850 – 1200 °C			

	Secondary Chamber: 1200-1300 °C			
4.	Refractory temperature resistance Primary Chamber: 1300 °C - 1600 °C Secondary Chamber: 1400 °C - 1600 °C			
5.	Control Panel: <ul style="list-style-type: none"> • PLC based • Digital interface • Digital temperature controller • Audio-Visual alarm system • Weather resistance IP665 or above rated. • User friendly and simple to operate 			
6.	Combustion gas residency time in secondary chamber: at least 2:0 sec			
7.	Loading mode: Please provide options for loading for this incinerator.			
8.	Loading Capacity: Designed so you can achieve a minimum load of 100kg/hour			

10	Ash Residue: <5%			
11	De-Ashing mode: Manual			
13.	Minimum stack height: 10 meters from the surface of the chamber with sampling possibilities (Note that stack height can be adjusted to be in conformance with good combustion process per the vendors recommendations as well as local height restrictions)			
14.	Accessories: All standard accessories for incinerator			
15.	Fuel Storage: Provide fuel system tests in accordance with FACTORY-FABRICATED FUEL STORAGE TANKS. The tank will be installed and connected by the supplier of the incinerator with safety measure to reduce fuel theft.			
16	Measuring Instruments: Measuring equipment shall be installed and techniques used in order to monitor the parameters, conditions, and mass concentration relevant to the incinerator process in compliance with ZEMA (Zambia Environmental Management Agency) requirements.			

17	Operating Environment: The incinerators are capable to operate at the altitude of each location at or above sea level. (according to the site conditions)			
18.	Power Requirement: Electricity supply: 220 volts / 50 HZ / single phase or 380 volts / 50 HZ / three phase or based upon size of unit as per manufacture's specifications			
19.	<p>The incinerator fulfils the following Standards and Safety Requirements:</p> <ul style="list-style-type: none"> ▪ CE Certified or other equivalent product certification/designation/approval that indicates the system has been properly constructed/assembled for health and safety within the country of manufacture. ▪ Electrical safety conforms to standards for electrical safety. 			
20.	Installation Testing and Commissioning: Conducted by certified or qualified personnel in accordance with the APHL commissioning guidance in Appendix C.			
21.	Lead time to delivery: Provide the best lead time period from award to commissioning of the unit.			
22.	Payment expectation: Describe the payment plan expectation to execute the project (note APHL may still limit the obligation on the payment to rules and regulations of the United States Government funds)			
23.	<p>Supplier shall provide the following documentation</p> <ul style="list-style-type: none"> ▪ User (Operating) manual in English ▪ Service (Technical / Maintenance) manual in English ▪ Certificate of calibration and inspection from factory. 			

24.	Fast moving spare parts: Supplier shall provide fast moving spare parts list with quantities as described in the price schedule			
25.	Training: Supplier shall provide training on operation, management, and maintenance of incinerators for the local facility staff. A detailed training plan is required.			
26.	Warranty: Comprehensive 2 year minimum warranty is required.			
27	Maintenance Service during Warranty Period: During warranty period supplier must ensure, corrective/breakdown maintenance whenever required.			
28	Supplier should be a local organization or have a local agent (if the supplier is external) and when external supplier is awarded, shall work on having a local agent for aftersales service and distribution of spare parts. Note on external agent: It is preferred the applicant has a local agent based in Zambia to cover the after sale service.			
29	Supplier provides references for 3 similar installations in the region by them or their prime partner in this bid			

Note: Appendix A provides the location where the incinerators shall be delivered and the proposed area at the laboratory for installation.

ACCOMPANYING DOCUMENTS

The following accompanying documents must be supplied to both APHL and the laboratory with the delivered treatment system:

- (A) Two (2) full operating instructions (including process description; loading and maintenance procedures) in English.
- (B) Three (3) short form of operation and loading procedures.
- (C) Utilities connections and connection plan, technical data sheet, approved certificates for the safety elements (probes, safety beakers etc.) (English).
- (D) One set of safety regulations (English).
- (E) Set of necessary safety signs.

All documents must be provided additionally in digital form in English.

Appendix A – Location of the Facility/Proposed area for Incinerator

Address: Zambia National Public Health Laboratory (ZNPRL)
University Drive, Levy Mwanawasa Medical University Grounds
Lusaka, Zambia.

Location of the Incinerator at NPRHL: The location within the Levy Mwanawasa Medical University was identified to house the containerized incinerator. The incinerator will be in the west car park with paved stones about 50 - 70 meters away from the laboratory and other buildings. Power source for the incinerator may be sourced from the laboratory or other nearest building. Below are pictures for the incinerator site proposed site/location.

Picture 1: Front view of the building that houses the ZNPRL. The laboratory is on the ground floor.





Picture 2: The picture shows the site view of where the incinerator will be located. The red arrow points to the exact location for the incinerator. The blue arrow shows some residential flats for health workers (about 200 -300meters from the incinerator site).



Picture 3: The building on the right is housing the laboratory on the ground floor. The distance from the building to the incinerator site is about 350 meters.



Photo 4: The building on the eastern part of where the incinerator will installed.

Appendix B – List of Additional Supplies to be Procured.

No.	Description	Specifications	Unit	Quantity
1	Heavy duty gloves	16" pure leather heat/fire/acid resistant gloves	Pair	3
2	Safety boots	Heat resistant with steel toecaps leather boots (preferably gumboot type)	Pair	3
3	Heavy duty aprons	Durable leather apron with long sleeves, heat, flame, and acid resistant.	Each	3
4	Work suits for waste handlers	Long sleeved fire/acid resistant top and bottom work suits with reflective tape	Each	3
5	Waste pans	Standing dustpan with 36" handle, 12" width and 12" depth	Each	3
6	Outdoor brooms	Standard angle broom with 36" handle	Each	3
7	Wheelbarrows	Singled wheelbarrow	Each	2
8	Scrubbing brooms	Floor surface scrub brush with handle 50"	Each	3
9	Mops brooms	Heavy duty, launderable long lasting with handle (36" handle)	Each	3
10	Shovels	Heavy duty steel shovels 39", One-piece construction with no seams or crevices where bacteria can hide.	Each	3
11	Bins on wheels 240L	Plastic 240Ltrs waste bin, 2 wheeled (black, green, or brown colored)	Each	3
12	Paddle bins 50Litres	Bio medical waste bins with paddler lever	Each	3
13	Rubbermaid squeezer	Rubbermaid side press with foot operated drain, capacity 26	Each	3
14	Weighing scale	Digital weighing scale with capacity to weigh 150kg	Each	1

Appendix C – Commissioning Document

It is important that following installation, the vendor commissions the incinerator works in the presence of key facility staff involved in the management of the equipment to ensure performance verification and operational readiness according to specifications. The vendor is thus, mandated to provide a schedule of installation activities to the facility management and request for a team comprising of but not limited to the following:

1. Facility Electrician/s
2. Facility Biomedical Engineer
3. Facility Plumber/s
4. Incinerator Operators
5. ZEMA Environmental Health Officers
6. Laboratory Staff
7. Waste management staff

All commissioning activities will be documented i.e., date/ time /participants and topics covered
The commissioning process will include:

No	Specification	Commissioning notes
1.	Power Supply	Clearly illustrate power requirements suitable for running the installed equipment, indicating the power source, all wiring connections to the equipment and any other vital information.
2.	Incinerator components, including but not limited to: <ol style="list-style-type: none"> a. Incinerator type and capacity b. Graduated Fuel tank and pipe support c. Primary and secondary chambers d. Primary and Secondary burners (with digital temperature gauges) e. Control unit f. Loading chamber/mechanism g. De-ashing chamber h. Chimney stack i. Thermocouples 	Demonstrate the location, specifications and function of each key equipment component.
3.	Performance verification and operational readiness:	Switch on the equipment and test performance paying
4.	Ensure that segregated medical waste is available for incineration,	A weighing scale to determine batch size of the waste to be loaded in the incinerator should be available.
5.	Demonstrate processes of loading fuel in a graduated fuel tank	The vendor shall provide fuel for the test service
6.	Illustrate mechanisms of switching on the incinerator following pre-heating	All procedures including management of the control unit should be highlighted.

	temperature threshold limits prior to commencement of incineration.	
7.	Demonstrate mechanisms of loading required weighed waste in the pre-heated incinerator to commence incineration.	Observe the colour/characteristic of emissions from the stack/flue and provide information on optimal and non-optimal emission requirements. Throughout the process, heating capacities of the primary and secondary chambers should be observed.
8.	Demonstrate observational procedures on completion of incineration, equipment cooling and de-ashing	Observe the colour and texture of ash and provide information on optimal and non-optimal de-ashing requirements.
9.	Provide guidance on conducting spot checks to components of the incinerator to ensure that all parts are in order.	Spot checks will not be limited to chambers, burners and fuel pipes, but also other key components
10.	Demonstrated recording of incineration operations as per vendor provided manual, job aids and maintenance logs.	
<p>Note: Ensure that safety precautions are adhered to throughout the commissioning processes. PPE shall be worn as per health and safety requirements e.g., gloves, masks, safety glasses or face shield, and protective clothing.</p>		