



CEEC/RAC/2019/09

## **Request for Proposal (RFP) for *conducting training on Refrigeration and Air Conditioning***

### **Invitation to Submit Proposal**

March 19, 2019

**Subject: RFP for conducting training on the Refrigeration and Air Conditioning**

You are requested to submit a proposal for consulting services in respect of the above referenced subject. Your proposal could form the basis for a contract between your firm / institution and the Kenya Association of Manufacturers (KAM).

To enable you submit a proposal, please find enclosed:

- a) Annex I: Proposal submission: Description of requirements for proposal submission;
- b) Annex II: Terms of Reference (TOR), containing a description of KAM requirements for which these services are being sought.

Pre-qualification documents containing detailed terms and conditions of pre-qualification may be downloaded from the KAM website: [www.kam.co.ke](http://www.kam.co.ke). Interested bidders will be required to pay a non-refundable fee of Kshs. 2,500 to the bank and provide original banking slip on top of the bid documents. The payment shall be made to: Kenya Association of Manufacturer KAM Collection A/C NO: 0948598736. Branch: Queensway House

**Note:**

This letter is not to be construed in any way as an offer to contract with your firm/institution.

Yours Sincerely,

**Phyllis Wakiaga**  
**Chief Executive**

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## ANNEX I

### **Manner of submission**

1. Your proposal shall be prepared in the English Language
2. Your proposal shall comprise the following documents:
  - a) Technical component and
  - b) Financial ( price component)
3. Your proposal shall be prepared in duplicate with one marked “original” and the other marked “copy”. In the event of any discrepancy between them, the original shall govern.
4. Please insert dates and address as necessary

### **Content of Proposal**

#### **1. Technical Component**

- i. Description of the firm and the firm’s qualifications;
- ii. Copy of Company Certificate of incorporation
- iii. Brief description of Understanding of the requirements for services, including assumptions;
- iv. Proposed approach and methodology;
- v. Proposed team structure;
- vi. Proposed project team members;
- vii. Executive brief of relevant similar projects undertaken in the past 2 years.

#### **2. Financial (Price Component)**

- i. A summary of the price;
- ii. The period of its validity;
- iii. Taxes
- iii. Statutory KRA PIN and VAT certificate copies

### **Payment terms (provisions)**

Kenya Association of Manufactures policy is to pay for contractual services based on performance of contractual services rendered. **For this task, KAM intends to make all payments upon completion of the assignment**

### **Evaluation of proposals**

A two stage procedure will be utilized in evaluating the proposals, with evaluation of the Technical component being completed prior to any price component. Scores will be awarded for the technical proposal.

The price component proposal will be opened only for those firms/ institutions whose technical component meets the requirements for the assignment, as indicated by a score of more than 70%.

### **Deadline for Submission**

The proposals are to be submitted to **AAM resources, Purshotam House, Chiromo Lane, Next to Diagnostics centre, by April 5, 2019, at 12.00 p.m.** late submissions will not be opened.

Please Label the Envelope “**Refrigeration and Air Conditioning Training**”

## ANNEX 11

### **Terms of Reference For Conducting Training on Refrigeration and Air Conditioning:**

#### **INTRODUCTION**

The Kenya Association of Manufacturers (KAM) is collaborating with the Government of Kenya to implement energy efficiency activities in the country, with a view to reducing energy costs to Kenyan companies.

Whereas many Kenyan companies are now aware of the benefits of energy efficiency, reluctance to invest in energy saving measures is still evident. Some reasons for this unwillingness are:

- Insufficient knowledge on viability of energy saving measures
- Skeptism regarding actual quantities, timings and risks of savings
- Lack of proven financing mechanisms for energy efficiency projects

The training in refrigeration and air conditioning will enable participants acquire skills to identify cooling and heating system unique problems that affect their operations efficiency , leads to losses and safely operating the HVAC equipment thus reducing production costs and as a result increasing profits, increasing employment and alleviating poverty. In addition, this exercise will help reduce greenhouse gas emissions and thus contribute to mitigation of climate change.

## OBJECTIVE

The purpose of this training is to enable participants to understand and apply efficient and optimize on Refrigeration and Air conditioning Systems management principles. It will equip participants with practical techniques to design and implement appropriate programmes aimed at improving compressed air usage and performance within their facility resulting in enormous savings on their total energy cost

## CONSULTANT ACTIVITIES

The activities will include:

1. Development of detailed course content.
2. Prepare materials and make copies of training materials for the participants. The copies will be **bound** and legible and will be available for ALL the Participants and two copies for KAM (records). In addition make one soft copy for KAM.
3. Deliver 24 hours of lectures during a 3-day Refrigeration and Air Conditioning system Workshop. The lecture content will include the following.
  - i. Refrigeration and Air conditioning systems:
    - Energy Management System and regulation on standards and HVAC systems rating.
    - Introduction to refrigeration and air conditioning
      - Vapour compression cycles;
      - Heat transfer in two-phase flow
      - Types, selection and operation of refrigeration plant
      - Psychometric charts
      - Load estimation and analysis
      - Constant/variable air volume systems & cooling and dehumidifying coils
      - System balancing
    - Types of compressor and technologies
    - Cooling towers
    - Chillers, Economizers and Heat pumps
    - Refrigerant classification and application
    - Performance rating (COP, EER and SEER)
    - Ventilation and heating systems
    - Refrigeration and air conditioning maintenance and trouble shooting
    - Opportunities for energy efficiency in compressed air systems
    - Principles of variable speed drives
    - Types and applications of variable speed drives
    - Types and principles of operation of pumps and fans
    - Opportunities for energy efficiency in HVAC fans
    - Financial analysis
    - Establishing an energy policy and a framework for energy management
  - ii. Monitoring and targeting
  - iii. Effective measurement and verification based on world recognized standards

4. Proper delivery of training to the technical participants using recent materials. The Trainer will be expected to use practical illustrations from the industry with emphasis on the Kenyan industry

## **OUTPUTS**

1. A training report which should include
  - all the training materials and course contents
  - An analysis of the course evaluation forms and recommendation
  - List of attendees etc

## **APPROACH**

The company will work under the direction of the CEO of KAM, and the Centre for Energy Efficiency and Conservation (CEEC). KAM will provide documents to the consultant as necessary.

## **TIME SCHEDULE AND LEVEL OF EFFORT**

The assignment will be carried out over a period of **12 days**. The period can be extended by the KAM CEO if deemed necessary.