



KENYA CIVIL AVIATION AUTHORITY

P.O BOX 30163-00100

NAIROBI

Email:- procurement@kcaa.or.ke

**INVITATION
TO
TENDER (ITT) NO. KCAA/045/2022-2023**

**SUPPLY, DELIVERY, REMODELING AND
MODERNIZATION OF DATACENTER,
UPGRADE OF LAN, EXTENSION OF WIFI/CCT
COVERAGE AND INSTALLATION OF CLEAN
POWER FOR ICT LABORATORY AT EASA**

DATE OF NOTICE: TUESDAY, 7TH FEBRUARY, 2023

CLOSING DATE: THURSDAY, 23RD FEBRUARY, 2023 AT 11:00 AM

BIDDERS TO NOTE: -

- a) *All bidders must note that KCAA communicates only in writing to all interested bidders during the entire tendering process.*
- b) *The mandatory pre-bid/site meeting will be held on **Thursday, 16th February, 2023 at 1.00pm to 2.30pm**, at the **East African School of Aviation**.*
- c) *Requests for clarifications shall be sent to the email **procurement@kcaa.or.ke** on or before **Wednesday, 15th February, 2023 at 5:00pm**.*

**INVITATION TO TENDER (ITT) PROCURING ENTITY:
KENYA CIVIL AVIATION AUTHORITY**

CONTRACT NAME AND DESCRIPTION: SUPPLY, DELIVERY, REMODELING AND MODERNIZATION OF DATACENTER, UPGRADE OF LAN, EXTENSION OF WIFI/CCT COVERAGE AND INSTALLATION OF CLEAN POWER FOR ICT LABORATORY AT EASA

- a) The Kenya Civil Aviation Authority invites sealed tenders for the **Supply, Delivery, Remodeling and Modernization of Datacenter, Upgrade of LAN, Extension of WIFI/CCT Coverage and Installation of Clean Power for ICT Laboratory at EASA**
- b) Tendering will be conducted under open National competitive tender using a standardized tender document. Tendering is open to all qualified and interested Tenderers.
- c) The tender awards SHALL be done to the lowest evaluated bidder who meets all the requirements.
- d) Qualified and interested tenderers may obtain further information and inspect the Tender Documents during office hours **0900 to1500 hours East African Time** at the address given below.
- e) A complete set of tender documents may be purchased or obtained by interested tenders upon payment of a non-refundable fees of Kshs. 1,000 in cash or banker's cheque payable to Kenya Civil Aviation Authority. Tenderers may also view and download the bidding document electronically from KCAA website: ***www.kcaa.or.ke* or *www.tenders.go.ke*** at no cost and immediately forward their particulars for records and for the purposes of receiving any further tender clarifications and/or addendums procurement@kcaa.or.ke. Tender documents obtained electronically will be free of charge. **KCAA will respond to the request for clarifications and send to all the interested bidders who have notified the Authority of their interest in the tender as required.**
- f) All clarifications should be sought from KCAA through email address procurement@kcaa.or.ke by **Wednesday, 15th February, 2023 at 5.00pm.**
- g) All Tenders must be accompanied by a tender security of **Kenya Shillings Two Million Only (KSHS.2,000,000.00 for both lots).**
- h) Completed tenders must be delivered to the address below on or before **Thursday, 23rd February, 2023 at 1100 hours East African time.** Electronic Tenders will not be permitted.
- i) Tenders will be opened immediately after the deadline date and time specified above or any dead line date and time specified later. Tenders will be publicly opened in the presence of the Tenderers' designated representatives and anyone who chooses to attend at the address below.
- j) Late tenders will be rejected.
- k) The addresses referred to above are:

i. Address for obtaining further information and for purchasing tender documents

Kenya Civil Aviation Authority
Procurement Office, Ground floor, Aviation House,
Jomo Kenyatta International Airport:
P.O. Box 30163-00100 Nairobi
Email: *procurement@kcaa.or.ke*
Tel:- 020827470-5, +254 709725000
P.O Box 30163-00100, Nairobi

ii. **Address for Submission of Tenders.**

Director General

Kenya Civil Aviation Authority

Ground floor, Aviation House, Jomo Kenyatta International Airport:

P.O. Box 30163-00100 Nairobi

iii. **Address for Opening of Tenders.**

Kenya Civil Aviation Authority

Auditorium, Ground floor, Aviation House, Jomo Kenyatta International Airport

Invitation issued by: William K. Kitum

Designation: - Manager Procurement (For Director General)

Date: 7th February, 2023

PART 1 - TENDERING PROCEDURES

SECTION I - INSTRUCTIONS TO TENDERERS (ITT)

Section I - Instructions to Tenderers

A. GENERAL

i. Scope of Tender

- i. The Procuring Entity, as indicated **in the TDS**, issues this tendering document for the supply and installation of the Information System as specified in Section V, Procuring Entity's Requirements. The name, identification and number of lots (contracts) of this ITT are specified **in the TDS**.

ii. Definitions

- 2.1 Unless otherwise stated, throughout this tendering document definitions and interpretations shall be as prescribed in the Section VI, General Conditions of Contract.
- 2.2 Throughout this tendering document:
 - a) The term "in writing" means communicated in written form (e.g., by mail, e-mail, fax, including if specified in the TDS, distributed or received through the electronic-procurement system used by the Procuring Entity) with proof of receipt;
 - b) If the context so requires, "singular" means "plural" and vice versa; and
 - c) "Day" means calendar day, unless otherwise specified as "Business Day". A Business Day is any day that is an official working day of the Procuring Entity. It excludes the Procuring Entity's official public holidays.
 - d) "Information System" shall carry the same meaning as "Information Technology".

iii. Fraud and Corruption

- 3.1 The Procuring Entity requires compliance with the provisions of the Public Procurement and Asset Disposal Act, 2015, Section 62 "Declaration not to engage in corruption". The tender submitted by a person shall include a declaration that the person shall not engage in any corrupt or fraudulent practice and a declaration that the person or his or her sub-contractors are not debarred from participating in public procurement proceedings.
- 3.2 The Procuring Entity requires compliance with the provisions of the Competition Act 2010, regarding collusive practices in contracting. Any tenderer found to have engaged in collusive conduct shall be disqualified and criminal and/ or civil sanctions may be imposed. To this effect, Tenderers shall be required to complete and sign the "Certificate of Independent Tender Determination" annexed to the Form of Tender.
- 3.3 Unfair Competitive Advantage -Fairness and transparency in the tender process require that the Firms or their Affiliates competing for a specific assignment do not derive a competitive advantage from having provided consulting services related to this tender. The Procuring Entity shall indicate in the **TDS** firms (if any) that provided consulting services for the contract being tendered for. The Procuring Entity shall check whether the owners or controllers of the Tenderer are same as those that provided consulting services. The Procuring Entity shall, upon request, make available to any tenderer information that would give such firm unfair competitive advantage over competing firms.
- 3.4 Tenderers shall permit and shall cause their agents (whether declared or not), subcontractors, sub-consultants, service providers, suppliers, and their personnel, to permit the Procuring Entity to inspect all accounts, records and other documents relating to any initial selection process, pre-

qualification process, tender submission, proposal submission, and contract performance (in the case of award), and to have them audited by auditors appointed by the Procuring Entity.

iv. Eligible Tenderers

- 4.1 A Tenderer may be a firm that is a private entity, a state-owned enterprise or institution subject to ITT 4.6, or any combination of such entities in the form of a joint venture (JV) under an existing agreement or with the intent to enter in to such an agreement supported by a Form of Intent. Public employees and their close relatives (*wives, children, brothers, sisters and uncles and aunts*) are not eligible to participate in the tender. In the case of a joint venture, all members shall be jointly and severally liable for the execution of the contract in accordance with the Contract terms. The JV shall nominate a Representative who shall have the authority to conduct all business for and on behalf of any and all the members of the JV during the Tendering process and, in the event the JV is awarded the contract, during contract execution. Members of a joint venture may not also make an individual tender, be a subcontractor in a separate tender or be part of another joint venture for the purposes of the same Tender. The maximum number of JV members shall be specified in the **TDS**.
- 4.1.1 Public Officers of the Procuring Entity, their Spouses, Child, Parent, Brothers or Sister. Child, Parent, Brother or Sister of a Spouse, their business associates or agents and firms / organizations in which they have a substantial or controlling interest shall not be eligible to tender or be awarded a contract. Public Officers are also not allowed to participate in any procurement proceedings.
- 4.1.2 A Tenderer shall not have a conflict of interest. Any Tenderer found to have a conflict of interest shall be disqualified. A Tenderer may be considered to have a conflict of interest for the purpose of this Tendering process, if the Tenderer:
- a) Directly or indirectly controls, is controlled by or is under common control with another Tenderer;
or
 - b) Receives or has received any direct or indirect subsidy from another Tenderer; or
 - c) Has the same legal representative as another Tenderer; or
 - d) Has a relationship with another Tenderer, directly or through common third parties, that puts it in a position to influence the Tender of another Tenderer, or influence the decisions of the Procuring Entity regarding this Tendering process; or
 - e) Any of its affiliates participates as a consultant in the preparation of the design or technical specifications of the Information System that are the subject of the Tender; or
 - f) Or any of its affiliates has been hired (or is proposed to be hired) by the Procuring Entity or Procuring Entity as Project Manager for the Contract implementation; or
 - g) Would be providing goods, works, or non-consulting services resulting from or directly related to consulting services for the preparation or implementation of the project specified in the TDSITT2.1 that it provided or were provided by any affiliate that directly or indirectly controls, is controlled by, or is under common control with that firm; or
 - h) Has a close business or family relationship with a professional staff of the Procuring Entity who:
 - i. Are directly or indirectly involved in the preparation of the tendering document or specifications of the Contract, and/ or the Tender evaluation process of such Contract.
or
 - ii. Would be involved in the implementation or supervision of such Contract unless the conflict stemming from such relationship has been resolved in a manner acceptable to

the Procuring Entity throughout the Tendering process and execution of the Contract.

- 4.1.3 A firm that is a Tenderer (either individually or as a JV member) shall not participate as a Tenderer or as JV member in more than one Tender except for permitted alternative Tenders. Such participation shall result in the disqualification of all Tenders in which the firm is involved. However, this does not limit the participation of a Tenderer as subcontractor in another Tender or of a firm as a subcontractor in more than one Tender.
- 4.1.4 A Tenderer may have the nationality of any country, subject to the restrictions pursuant to ITT4.9. A Tenderer shall be deemed to have the nationality of a country if the Tenderer is constituted, incorporated or registered in and operates in conformity with the provisions of the laws of that country, as evidenced by its articles of incorporation (or equivalent documents of constitution or association) and its registration documents, as the case maybe. This criterion also shall apply to the determination of the nationality of proposed sub-contractors or sub- consultants for any part of the Contract including related Services.
- 4.1.5 A Tenderer that has been debarred from participating in public procurement shall be ineligible to tender or be awarded a contract. The list of debarred firms and individuals is available from the website of PPR www.ppra.go.ke.
- 4.1.6 Tenderers that are state-owned enterprises or institutions in Kenya may be eligible to compete and be awarded a Contract(s) only if they can establish that they (i) are legally and financially autonomous (ii) operate under commercial law, and (iii) are not under supervision of the Procuring Entity.
- 4.1.7 Firms and individuals may be ineligible if (a) as a matter of law or official regulations, Kenya prohibits commercial relations with that country, or (b) by an act of compliance with a decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations, Kenya prohibits any import of goods or contracting of works or services from that country, or any payments to any country, person, or entity in that country.
- 4.1.8 The Procuring Entity may require tenderers to be registered with certain authorities in Kenya. Such registration shall be defined in the **TDS**, but care must be taken to ensure such registration requirement does not discourage competition, nor exclude competent tenderers. Registration shall not be a condition for tender, but where a selected tenderer is not so registered, the tenderer shall be given opportunity to register before signing of the contract.
- 4.1.9 Foreign tenderers are required to source at least forty (40%) percent of their contract inputs (in supplies, subcontracts and labor) from national suppliers and contractors. To this end, a foreign tenderer shall provide in its tender documentary evidence that this requirement is met. Foreign tenderers not meeting this criterion will be automatically disqualified. Information required to enable the Procuring Entity determine if this condition is met shall be provided in for this purpose is be provided in *“SECTION III- EVALUATION AND QUALIFICATION CRITERIA, Item 9”*.
- 4.1.10 Pursuant to the eligibility requirements of ITT 4.11, a tenderer is considered a foreign tenderer, if it is registered in Kenya, has less than 51 percent ownership by nationals of Kenya and if it does not subcontract foreign contractors more than 10 percent of the contract price, excluding provisional sums. JVs are considered as foreign tenderers if the individual member firms are registered in Kenya have less than 51 percent ownership by nationals of Kenya. The JV shall not subcontract to foreign firms more than 10 percent of the contract price, excluding provisional sums.

- 4.1.11 The Competition Act of Kenya requires that firms wishing to tender as Joint Venture undertakings which may prevent, distort or lessen competition in provision of services are prohibited unless they are exempt in accordance with the provisions of Section 25 of the Competition Act, 2010. JVs will be required to seek for exemption from the Competition Authority. Exemption shall not be a condition for tender, but it shall be a condition of contract award and signature. A JV tenderer shall be given opportunity to seek such exemption as a condition of award and signature of contract. Application for exemption from the Competition Authority of Kenya may be accessed from the website www.cak.go.ke
- 4.1.12 Tenderers shall be considered ineligible for procurement if they offer goods, works and production processes with characteristics that have been declared by the relevant national environmental protection agency or by other competent authority as harmful to human beings and to the environment.
- 4.1.13 A Kenyan tenderer shall be eligible to tender if it provides evidence of having fulfilled his/her tax obligations by producing a valid tax compliance certificate or tax exemption certificate issued by the Kenya Revenue Authority.

v. Eligible Goods and Services

5.1 The Information Systems to be supplied under the Contract may have their origin in any eligible country.

5.2 For the purposes of this tendering document, the term “Information System” means all:

- i. the required information technologies, including all information processing and communications-related hardware, software, supplies, and consumable items that the Supplier is required to supply and install under the Contract, plus all associated documentation, and all other materials and goods to be supplied, installed, integrated, and made operational; and
- ii. the related software development, transportation, insurance, installation, customization, integration, commissioning, training, technical support, maintenance, repair, and other services necessary for proper operation of the Information System to be provided by the selected Tenderer and as specified in the Contract.

5.3 For purposes of ITT 5.1 above, “origin” means the place where the goods and services making the Information System are produced in or supplied from. An Information System is deemed to be produced in a certain country when, in the territory of that country, through software development, manufacturing, or substantial and major assembly or integration of components, a commercially recognized product results that is substantially different in basic characteristics or in purpose or utility from its components.

5.4 Any goods, works and production processes with characteristics that have been declared by the relevant national environmental protection agency or by other competent authority as harmful to human beings and to the environment shall not be eligible for procurement under this Act.

B. CONTENTS OF TENDERING DOCUMENT

vi. Sections of Tendering Document

PART 1 - Tendering Procedures

Section I - Instructions to Tenderers (ITT)

Section II - Tender Data Sheet (TDS)

Section III - Evaluation and Qualification Criteria

Section IV - Tendering Forms

PART 2 - Procuring Entity's Requirements

Section V - Requirements of the Information Systems

Section VI - Technical Requirements

Section VII - Implementation Schedule

Section VIII - System Inventory Tables

Section IX - Background and Informational Materials

PART 3 - Contract

Section X - General Conditions of Contract

Section XII - Special Conditions of Contract

Section XIII - Contract Forms

- 6.1 The Invitation to Tender Notice issued by the Procuring Entity is not part of this tendering document.
- 6.2 Unless obtained directly from the Procuring Entity, the Procuring Entity is not responsible for the completeness of the document, responses to requests for clarification, the Minutes of the pre-Tender meeting (if any), or Addenda to the tendering document in accordance with ITT 10. In case of any contradiction, documents obtained directly from the Procuring Entity shall prevail.
- 6.3 The Tenderer is expected to examine all instructions, forms, terms, and specifications in the tendering document and to furnish with its Tender all information or documentation as is required by the tendering document.

7 Site Visit

- 7.1 The Tenderer, at the Tenderer's own responsibility and risk, is encouraged to visit and examine the Site of the Required Services and its surroundings and obtain all information that may be necessary for preparing the Tender and entering in to a contract for the Services. The costs of visiting the Site shall be the Tenderer's own expense.

8 Pre-Tender Meeting and a pre- arranged pretender visit of the site of the works

- 8.1 The Procuring Entity shall specify in the **TDS** if a pre-tender conference will be held, when and where. The Procuring Entity shall also specify in the **TDS** if a pre-arranged pretender visit of the site of the works will be held and when. The Tenderer's designated representative is invited to attend a pre-arranged pretender visit of the site of the works. The purpose of the meeting will be to clarify issues and to answer questions on any matter that may be raised at that stage.
- 8.2 The Tenderer is requested to submit any questions in writing, to reach the Procuring Entity not

later than the period specified in the **TDS** before the meeting.

- 8.3 Minutes of the pre-Tender meeting and the pre-arranged pre-tender visit of the site of the works, if applicable, including the text of the questions asked by Tenderers and the responses given, together with any responses prepared after the meeting, will be transmitted promptly to all Tenderers who have acquired the Tender Documents in accordance with ITT 6.3. Minutes shall not identify the source of the questions asked.
- 8.4 The Procuring Entity shall also promptly publish anonymized (*no names*) Minutes of the pre-Tender meeting and the pre-arranged pre-tender visit of the site of the works at the web page identified **in the TDS**. Any modification to the Tender Documents that may become necessary as a result of the pre-Tender meeting shall be made by the Procuring Entity exclusively through the issue of an Addendum pursuant to ITT 10 and not through the minutes of the pre-Tender meeting. Nonattendance at the pre-Tender meeting will not be a cause for disqualification of a Tenderer.

9 Clarification of Tender Documents

- 9.1 A Tenderer requiring any clarification of the Tender Document shall contact the Procuring Entity in writing at the Procuring Entity's address specified in the TDS or raise its enquiries during the pre-Tender meeting and the pre-arranged pre-tender visit of the site of the works if provided for in accordance with ITT 8.4. The Procuring Entity will respond in writing to any request for clarification, provided that such request is received no later than the period specified in the TDS prior to the deadline for submission of tenders. The Procuring Entity shall forward copies of its response to all tenderers who have acquired the Tender Documents in accordance with ITT 6.3, including a description of the inquiry but without identifying its source. If so specified in the **TDS**, the Procuring Entity shall also promptly publish its response at the web page identified in the **TDS**. Should the clarification resulting changes to the essential elements of the Tender Documents, the Procuring Entity shall amend the Tender Documents appropriately following the procedure under ITT 10.

10 Amendment of Tendering Document

- 10.1 At any time prior to the deadline for submission of Tenders, the Procuring Entity may amend the Tendering document by issuing addenda.
- 10.2 Any addendum issued shall be part of the tendering document and shall be communicated in writing to all who have obtained the tendering document from the Procuring Entity in accordance with ITT 6.3. The Procuring Entity shall also promptly publish the addendum on the Procuring Entity's webpage in accordance with ITT 8.1.
- 10.3 To give prospective Tenderers reasonable time in which to take an addendum into account in preparing their Tenders, the Procuring Entity shall extend, as necessary, the deadline for submission of Tenders, in accordance with ITT 24.2 below.

C. PREPARATION OF TENDERS

11 Cost of Tendering

- 11.1 The Tenderer shall bear all costs associated with the preparation and submission of its Tender, and the Procuring Entity shall not be responsible or liable for those costs, regardless of the conduct or outcome of the Tendering process.

12 Language of Tender

- 12.1 The Tender, as well as all correspondence and documents relating to the tender exchanged by

the Tenderer and the Procuring Entity, shall be written in the English language. Supporting documents and printed literature that are part of the Tender may be in another language provided they are accompanied by an accurate translation of the relevant passages in the English language, in which case, for purposes of interpretation of the Tender, such translation shall govern.

13 Documents Comprising the Tender

13.1 The Tender submitted by the Tenderer shall comprise the following:

- a) **Form of Tender** prepared in accordance with ITT 14;
- b) **Price Schedules** completed in accordance with ITT 14 and ITT 16;
- c) **Tender Security or Tender-Securing Declaration** in accordance with ITT 22;
- d) **Alternative Tender:** if permissible, in accordance with ITT 15;
- e) **Authorization:** written confirmation authorizing the signatory of the Tender to commit the Tenderer, in accordance with ITT 23.3;
- f) **Eligibility of Information System:** documentary evidence established in accordance with ITT 16.1 that the Information System offered by the Tenderer in its Tender or in any alternative Tender, if permitted, are eligible;
- g) **Tenderer's Eligibility:** documentary evidence in accordance with ITT 17 establishing the Tenderer's eligibility and qualifications to perform the contract if its Tender is accepted;
- h) **Conformity:** documentary evidence established in accordance with ITT 18 that the Information System offered by the Tenderer conform to the tendering document;
- i) **Subcontractors:** list of subcontractors, in accordance with ITT 18.4;
- j) **Intellectual Property:** a list of: Intellectual Property as defined in GCC Clause 15;
 - i. All Software included in the Tender, assigning each item to one of the software categories defined in GCC Clause 1.1(C):
 1. System, General Purpose, and Application Software; or
 2. Standard and Custom Software;
 - ii. All Custom Materials, as defined in GCC Clause 1.1(c), included in the Tender;

All Materials not identified as Custom Materials shall be deemed Standard Materials, as defined in GCC Clause 1.1 (c); Re-assignments among the Software and Materials categories, if necessary, will be made during the implementation of the Contract according to GCC Clause 39 (Changes to the Information System); and
- k) **Any other document required in the TDS.**

13.2 In addition to the requirements under ITT 13.1, Tenders submitted by a JV shall include a copy of the Joint Venture Agreement entered into by all members indicating at least the parts of the Information System to be executed by the respective members. Alternatively, a Form of intent to execute a Joint Venture Agreement in the information System to be executed by the respective members.

13.3 The Tenderer shall furnish in the Form of Tender information on commissions and gratuities, if any, paid or to be paid to agents or any other party relating to this Tender. The Tenderer shall

serialize page so fall tender documents submitted.

14 Form of Tender and Price Schedules

- i. The Tenderer shall complete the Form of Tender, including the appropriate Price Schedules, using the relevant forms furnished in Section IV, Tendering Forms. The forms must be completed without any alterations to the text, and no substitutes shall be accepted except as provided under ITT 21.3. All blank spaces shall be filled in with the information requested. The Tenderer shall chronologically serialize all pages of the tender documents submitted.

15 Alternative Tenders

- 15.1 The TDS indicates whether alternative Tenders are allowed. If they are allowed, the **TDS** will also indicate whether they are permitted in accordance with ITT 13.3, or invited in accordance with ITT 13.2 and/or ITT 13.4.
- 15.2 When alternatives to the Time Schedule are explicitly invited, a statement to that effect will be included **in the TDS**, and the method of evaluating different time schedules will be described in Section III, Evaluation and Qualification Criteria.
- 15.3 Except as provided under ITT 15.4 below, Tenderers wishing to offer technical alternatives to the Procuring Entity's requirements as described in the tendering document must also provide: (i) a price at which they are prepared to offer an Information System meeting the Procuring Entity's requirements; and (ii) all information necessary for a complete evaluation of the alternatives by the Procuring Entity, including drawings, design calculations, technical specifications, breakdown of prices, and proposed installation methodology and other relevant details. Only the technical alternatives, if any, of the Tenderer with the Best Evaluated Tender conforming to the basic technical requirements shall be considered by the Procuring Entity.
- 15.4 When Tenderers are invited **in the TDS** to submit alternative technical solutions for specified parts of the system, such parts shall be described in Section V, Procuring Entity's Requirements. Technical alternatives that comply with the performance and technical criteria specified for the Information System shall be considered by the Procuring Entity on their own merits, pursuant to ITT 35.

16. Documents Establishing the Eligibility of the Information System

- 16.1 To establish the eligibility of the Information System in accordance with ITT 5, Tenderers shall complete the country-of-origin declarations in the Price Schedule Forms, included in Section IV, Tendering Forms.

17. Documents Establishing the Eligibility and Qualifications of the Tenderer

- 17.1 To establish its eligibility and qualifications to perform the Contracting accordance with Section III, Evaluation and Qualification Criteria, the Tenderer shall provide the information requested in the corresponding information sheets included in Section IV, Tendering Forms.
- 17.2 In the event that pre-qualification of potential Tenderers has been undertaken as stated **in the TDS**, only Tenders from pre-qualified Tenderers shall be considered for award of Contract. These qualified Tenderers should submit with their Tenders any information updating their original pre-qualification applications or, alternatively, confirm in their Tenders that the originally submitted pre-qualification information remains essentially correct as of the date of Tender submission.
- 17.3 Tenderers shall be asked to provide, as part of the data for qualification, such information, including details of ownership, as shall be required to determine whether, according to the classification established by the Procuring Entity, a particular contractor or group of contractors

qualifies for a margin of preference. Further the information will enable the Procuring Entity identify any actual or potential conflict of interest in relation to the procurement and/or contract management processes, or a possibility of collusion between tenderers, and thereby help to prevent any corrupt influence in relation to the procurement process or contract management.

- 17.4 The purpose of the information described in ITT 15.1 above overrides any claims to confidentiality which a tenderer may have. There can be no circumstances in which it would be justified for a tenderer to keep information relating to its ownership and control confidential where it is tendering to undertake public sector work and receive public sector funds. Thus, confidentiality will not be accepted by the Procuring Entity as a justification for a Tenderer's failure to disclose, or failure to provide required information on its ownership and control.
- 17.5 The Tenderer shall provide further documentary proof, information or authorizations that the Procuring Entity may request in relation to ownership and control, any changes to the information which was provided by the tenderer under ITT 6.3. The obligations to require this information shall continue for the duration of the procurement process and contract performance and after completion of the contract, if any change to the information previously provided may reveal a conflict of interest in relation to the award or management of the contract.
- 17.6 All information provided by the tenderer pursuant to these requirements must be complete, current and accurate as at the date of provision to the Procuring Entity. In submitting the information required pursuant to these requirements, the Tenderer shall warrant that the information submitted is complete, current and accurate as at the date of submission to the Procuring Entity.
- 17.7 If a tenderer fails to submit the information required by these requirements, its tenderer will be rejected. Similarly, if the Procuring Entity is unable, after taking reasonable steps, to verify to a reasonable degree the information submitted by a tenderer pursuant to these requirements, then the tender will be rejected.
- 17.8 If information submitted by a tenderer pursuant to these requirements, or obtained by the Procuring Entity (whether through its own enquiries, through notification by the public or otherwise), shows any conflict of interest which could materially and improperly benefit the tenderer in relation to the procurement or contract management process, then:
- a) If the procurement process is still ongoing, the tenderer will be disqualified from the procurement process,
 - b) If the contract has been awarded to that tenderer, the contract award will be set aside,
 - c) the tenderer will be referred to the relevant law enforcement authorities for investigation of whether the tenderer or any other persons have committed any criminal offence.
- 17.9 If a tenderer submits information pursuant to these requirements that is in complete, inaccurate or out-of-date, or attempts to obstruct the verification process, then the consequences ITT 6.7 will ensue unless the tenderer can show to the reasonable satisfaction of the Procuring Entity that any such act was not material, or was due to genuine error which was not attributable to the intentional act, negligence or recklessness of the tenderer.

18. Documents Establishing Conformity of the Information System

- 18.1 Pursuant to ITT 11.1(h), the Tenderer shall furnish, as part of its Tender documents establishing the conformity to the tendering documents of the Information System that the Tenderer proposes to design, supply and install under the Contract.
- 18.2 The documentary evidence of conformity of the Information System to the tendering documents including:
- a) Preliminary Project Plan describing, among other things, the methods by which the Tenderer will carry out its overall management and coordination responsibilities if awarded the Contract, and the human and other resources the Tenderer proposes to use. The Preliminary Project Plan must also address any other topics **specified in the TDS**. In addition, the Preliminary Project Plan should state the Tenderer's assessment of what it expects the Procuring Entity and any other party involved in the implementation of the Information System to provide during implementation and how the Tenderer proposes to coordinate the activities of all involved parties;
 - b) Written confirmation that the Tenderer accepts responsibility for the successful integration and inter- operability of all components of the Information System as required by the tendering documents;
 - c) An item-by-item commentary on the Procuring Entity's Technical Requirements, demonstrating the substantial responsiveness of the Information System offered to those requirements. In demonstrating responsiveness, the Tenderer is encouraged to use the Technical Responsiveness Checklist (or Checklist Format) in the Sample Tendering Forms (Section IV). The commentary shall include explicit cross- references to the relevant pages in the supporting materials included in the tender. Whenever a discrepancy arises between the item-by-item commentary and any catalogs, technical specifications, or other preprinted materials submitted with the tender, the item-by-item commentary shall prevail;
 - d) Support material (e.g., product literature, white papers, narrative descriptions of technologies and/or technical approaches), as required and appropriate; and
 - e) Any separate and enforceable contract(s) for Recurrent Cost items which the TDS ITT 17.2 required Tenderers to tender.
- 18.3 Referencetobrandnamesormodelnumbersornationalorproprietarystandardsdesignatedbythe Procuring Entity in the tendering documents are intended to be descriptive and not restrictive. Except where explicitly prohibited in the **TDS** for specific items or standards, the Tenderer may substitute alternative brand /model names or standards in its tender, provided that it demonstrates to the Procuring Entity's satisfaction that the use of the substitute(s) will result in the Information System being able to perform substantially equivalent to or better than that specified in the Technical Requirements.
- 18.4 For major items of the Information System as listed by the Procuring Entity in Section III, Evaluation and Qualification Criteria, which the Tenderer intends to purchase or subcontract, the Tenderer shall give details of the name and nationality of the proposed subcontractors, including manufacturers, for each of those items. In addition, the Tenderer shall include in its Tender information establishing compliance with the requirements specified by the Procuring Entity for these items. Quoted rates and prices will be deemed to apply to whichever subcontractor is appointed, and no adjustment of the rates and prices will be permitted.
- 18.5 The Tenderer shall be responsible for ensuring that any subcontractor proposed complies with the requirements of ITT 4, and that any goods or services to be provided by the subcontractor comply with the requirements of ITT 5 and ITT 16.1.

19. Tender Prices

19.1 All Goods and Services identified in the Supply and Installation Cost Sub-Tables in System Inventory Tables in Section VII, and all other Goods and Services proposed by the Tenderer to fulfill the requirements of the Information System, must be priced separately and summarized in the corresponding cost tables in the Sample Tendering Forms (Section IV), in accordance with the instructions provided in the tables and in the manner specified below.

19.2 **Unless otherwise specified in the TDS**, the Tenderer must also tender Recurrent Cost Items specified in the Technical Requirements, Recurrent Cost Sub-Table of the System Inventory Tables in Section VII (if any). These must be priced separately and summarized in the corresponding cost table in the Sample Tendering Forms (Section IV), in accordance with the instructions provided in the tables and in the manner specified below:

- a) **If specified in the TDS**, the Tenderer must also tender separate enforceable contracts for the Recurrent Cost Items not included in the main Contract;
- b) prices for Recurrent Costs are all-inclusive of the costs of necessary Goods such as spare parts, software license renewals, labor, etc., needed for the continued and proper operation of the Information System and, if appropriate, of the Tenderer's own allowance for price increases;
- c) prices for Recurrent Costs beyond the scope of warranty services to be incurred during the Warranty Period, defined in GCC Clause 29.4 and prices for Recurrent Costs to be incurred during the Post-Warranty Period, defined in SCC Clause 1.1. (e) (xiii), shall be quoted as Service prices on the Recurrent Cost Sub-Table in detail, and on the Recurrent Cost Summary Table in currency totals.

19.3 Unit prices must be quoted at a level of detail appropriate for calculation of any partial deliveries or partial payments under the contract, in accordance with the Implementation Schedule in Section VII), and with GCC and SCC Clause 12 – Terms of Payment. Tenderers may be required to provide a breakdown of any composite or lump-sum items included in the Cost Tables

19.4 The price of items that the Tenderer has left blank in the cost tables provided in the Sample Tender Forms (Section IV) shall be assumed to be included in the price of other items. Items omitted altogether from the cost tables shall be assumed to be omitted from the tender and, provided that the tender is substantially responsive, an adjustment to the tender price will be made during tender evaluation in accordance with ITT 31.3.

19.5 The prices for Goods components of the Information System are to be expressed and shall be defined and governed in accordance with the rules prescribed in the edition of incoterms **specified in the TDS**, as follows:

- a) Goods supplied from outside Kenya:

Unless otherwise specified in the TDS, the prices shall be quoted on a CIP (named place of destination) basis, exclusive of all taxes, stamps, duties, levies, and fees imposed in Kenya. The named place of destination and special instructions for the contract of carriage are as specified in the SCC for GCC 1.1(e) (iii). In quoting the price, the Tenderer shall be free to use transportation through carriers registered in any eligible countries. Similarly, the Tenderer may obtain insurance services from any eligible source country;

- b) Locally supplied Goods: Unit prices of Goods offered from within Kenya, shall be quoted on an EXW (ex- factory, ex works, ex ware house or off- the-shelf, as applicable) basis, including all customs duties, levies, fees, sales and other taxes incurred until delivery of the Goods, but excluding all VAT or sales and other taxes and duties/fees incurred for the Goods at the time of invoicing or sales transaction, if the Contract is awarded; and

c) Inland transportation.

19.6 Unless otherwise stated in the **TDS**, inland transportation, insurance and related local costs incidental to the delivery of the Goods to the designated Project Sites must be quoted separately as a Service item in accordance with ITT 17.5, whether the Goods are to be supplied locally or from outside Kenya, except when these costs are already included in the price of the Goods, as is, e.g., the case, when ITT 17.5 (a) specifies CIP, and the named places of destination are the Project Sites.

19.7 The price of Services shall be separated into their local and foreign currency components and where appropriate, broken down into unit prices. Prices must include all taxes, duties, levies and fees whatsoever, except only VAT or other indirect taxes, or stamp duties, that may be assessed and/ or apply in Kenyan /to the price of the Services invoiced to the Procuring Entity, if the Contract is awarded.

19.8 Unless otherwise specified in the **TDS**, the prices must include all costs incidental to the performance of the Services, as incurred by the Supplier, such as travel, subsistence, office support, communications, translation, printing of materials, etc. Costs incidental to the delivery of the Services but incurred by the Procuring Entity or its staff, or by third parties, must be included in the price only to the extent such obligations are made explicit in these tendering documents (as, e.g., a requirement for the Tenderer to include the travel and subsistence costs of trainees).

19.9 Unless otherwise specified in the **TDS**, prices quoted by the Tenderer shall be fixed during the Tenderer's performance of the Contract and not subject to increases on any account. Tenders submitted that are subject to price adjustment will be rejected.

20. Currencies of Tender and Payment

20.1 The currency(ies) of the Tender and currencies of payment shall be the same. The Tenderer shall quote in Kenya shillings the portion of the Tender price that corresponds to expenditures incurred in Kenya currency, unless otherwise specified **in the TDS**.

20.2 The Tenderer may express the Tender price in any currency. If the Tenderer wishes to be paid in a combination of amounts in different currencies, it may quote its price accordingly but shall use no more than **two foreign currencies** in addition to Kenyan currency.

21. Period of Validity of Tenders

21.1 Tenders shall remain valid for the period specified **in the TDS** after the Tender submission deadline date prescribed by the Procuring Entity in accordance with ITT 23.1. A Tender valid for a shorter period shall be rejected by the Procuring Entity as non-responsive.

21.2 exceptional circumstances, prior to the expiration of the Tender validity period, the Procuring Entity may request Tenderers to extend the period of validity of their Tenders. The request and the responses shall be made in writing. If a Tender Security is requested in accordance with ITT 20.1, it shall also be extended for thirty days (30) beyond the deadline of the extended validity period. A Tenderer may refuse the request without forfeiting its Tender Security. A Tenderer granting the request shall not be required or permitted to modify its Tender, except as provided in ITT 19.3.

22. Tender Security

22.1 The Tenderer shall furnish as part of its Tender, either a Tender-Securing Declaration or a Tender Security as specified **in the TDS**, in original form and, in the case of a Tender Security,

in the amount and currency specified in the **TDS**.

22.2 A Tender-Securing Declaration shall use the form included in Section IV, Tendering Forms.

22.3 If a Tender Security is specified pursuant to ITT 20.1, the tender security shall be a demand guarantee in any of the following forms at the Tenderer's option:

- a) cash;
- b) a bank guarantee;
- c) a guarantee by an insurance company registered and licensed by the Insurance Regulatory Authority listed by the Authority; or
- d) a guarantee issued by a financial institution approved and licensed by the Central Bank of Kenya,
- e) any other form specified in the **TDS**.

If an unconditional guarantee is issued by a non-bank financial institution located outside Kenya, the issuing non-bank financial institution shall have a correspondent financial institution located in Kenya to make it enforceable unless the Procuring Entity has agreed in writing, prior to Tender submission, that a correspondent financial institution is not required.

22.4 In the case of a bank guarantee, the Tender Security shall be submitted either using the Tender Security Form included in Section IV, Tendering Forms or in another substantially similar format approved by the Procuring Entity prior to Tender submission. In neither case, the form must include the complete name of the Tenderer. The Tender Security shall be valid for thirty days (30) beyond the original validity period of the Tender, or beyond any period of extension if requested under ITT 19.2.

22.5 If a Tender Security or a Tender-Securing Declaration is specified pursuant to ITT 20.1, any Tender not accompanied by a substantially responsive Tender Security or Tender-Securing Declaration shall be rejected by the Procuring Entity as non-responsive.

22.6 The Tender Security shall be returned/release as promptly as possible

- a) The procurement proceedings are terminated;
- b) The procuring entity determines that none of the submitted tenders is responsive;
- c) A bidder declines to extend the tender validity.
- d) Once the successful Tenderer has signed the Contract and furnished the required Performance Security.

22.7 The Tender Security may be forfeited or the Tender-Securing Declaration executed:

- a) if a Tenderer withdraws its Tender during the period of Tender validity specified by the Tenderer on the Form of Tender; or
- b) if the successful Tenderer fails to:
 - a) sign the Contract in accordance with ITT 47; or
 - b) furnish a performance security in accordance with ITT 48.

22.8 Where the Tender-Securing Declaration is executed the Procuring Entity will recommend to the PPRA to debar the Tenderer from participating in public procurement as provided in the law.

22.9 The Tender Security or the Tender-Securing Declaration of a JV shall be in the name of the JV that submits the tender. If the JV has not been legally constituted in to a legally enforceable JV at the time of Tendering, the Tender Security or the Tender-Securing Declaration shall be in the names of all future members as named in the Form of intent referred to in ITT 4.1 and ITT 11.2.

22.10A tenderer shall not issue a tender security to guarantee itself.

23. Format and Signing of Tender

23.1 The Tenderer shall prepare one original of the documents comprising the Tender as described in ITT 11 and clearly mark it "ORIGINAL." Alternative Tenders, if permitted in accordance with ITT 13, shall be clearly marked "ALTERNATIVE". In addition, the Tenderer shall submit copies of the Tender, in the number specified **in the TDS** and clearly mark them "COPY." In the event of any discrepancy between the original and the copies, the original shall prevail.

23.2 Tenderers shall mark as "CONFIDENTIAL" information in their Tenders which is confidential to their business. This may include proprietary information, trade secrets, or commercial or financially sensitive information.

23.3 The original and all copies of the Tender shall be typed or written in indelible ink and shall be signed by a person duly authorized to sign on behalf of the Tenderer. This authorization shall consist of a written confirmation as specified **in the TDS** and shall be attached to the Tender. The name and position held by each person signing the authorization must be typed or printed below the signature. All pages of the Tender where entries or amendments have been made shall be signed or initialed by the person signing the Tender.

23.4 In case the Tenderer is a JV, the Tender shall be signed by an authorized representative of the JV on behalf of the JV, and so as to be legally binding on all the members as evidenced by a power of attorney signed by their legally authorized representatives.

23.5 Any interlineations, erasures, or overwriting shall be valid only if they are signed or initialed by the person signing the Tender.

D. SUBMISSION AND OPENING OF TENDERS

24. Submission, Sealing and Marking of Tenders

24.1 The Tenderer shall deliver the Tender in a single, sealed envelope (one (1) envelope process). Within the single envelope the Tenderer shall place the following separate, sealed envelopes:

a) In an envelope marked "ORIGINAL", all documents comprising the Tender, as described in ITT 11;
and

b) In an envelope marked "COPIES", all required copies of the Tender; and,

c) If alternative Tenders are permitted in accordance with ITT 13, and if relevant:

i. In an envelope marked "ORIGINAL-ALTERNATIVE TENDER", the alternative Tender; and

ii. in the envelope marked "COPIES - ALTERNATIVE TENDER" all required copies of the alternative Tender.

24.2 The inner envelopes shall:

a) Bear the name and address of the Tenderer;

b) Be addressed to the Procuring Entity/ Employer in accordance with ITT 23.1;

- c) Bear the specific identification of this Tendering process specified in accordance with ITT 1.1; and
- d) Bear a warning not to open before the time and date for Tender opening.

The outer envelopes shall:

- e) Be addressed to the Procuring Entity/ Employer in accordance with ITT 23.1;
- f) Bear the specific identification of this Tendering process specified in accordance with ITT 1.1; and bear a warning not to open before the time and date for Tender opening.

24.3 If all envelopes are not sealed and marked as required, the Procuring Entity will assume no responsibility for the misplacement or premature opening of the Tender. Tenders that are misplaced or opened prematurely will not be accepted.

25. Deadline for Submission of Tenders

25.1 Tenders must be received by the Procuring Entity at the address and no later than the date and time indicated **in the TDS**. When so specified **in the TDS**, Tenderers shall have the option of submitting their Tenders electronically. Tenderers submitting Tenders electronically shall follow the electronic Tender submission procedures specified **in the TDS**.

25.2 The Procuring Entity may, at its discretion, extend this deadline for submission of Tenders by amending the tendering documents in accordance with ITT 8, in which case all rights and obligations of the Procuring Entity and Tenderers will thereafter be subject to the deadline as extended.

26. Late Tenders

26.1 The Procuring Entity shall not consider any Tender that arrives after the deadline for submission of Tenders, in accordance with ITT 23. Any Tender received by the Procuring Entity after the deadline for submission of Tenders shall be declared late, rejected, and returned unopened to the Tenderer.

27. Withdrawal, Substitution, and Modification of Tenders

27.1 A Tenderer may withdraw, substitute, or modify its Tender after it has been submitted by sending a written notice, duly signed by an authorized representative, and shall include a copy of the authorization in accordance with ITT 21.3, (except that withdrawal notices do not require copies). The corresponding substitution or modification of the Tender must accompany the respective written notice. All notices must be:

- a) prepared and submitted in accordance with ITT 21 and ITT 22 (except that withdrawal notices do not require copies), and in addition, the respective envelopes shall be clearly marked "WITHDRAWAL," "SUBSTITUTION," "MODIFICATION;" and
- b) received by the Procuring Entity prior to the deadline prescribed for submission of Tenders, in accordance with ITT 23.

27.2 Tenders requested to be withdrawn in accordance with ITT 25.1 shall be returned unopened to the Tenderers.

27.3 No Tender may be withdrawn, substituted, or modified in the interval between the deadline for submission of Tender and the expiration of the period of Tender validity specified by the Tenderer on the Form of Tender or any extension thereof.

28. Tender Opening

- 28.1 Except as in the cases specified in ITT 24 and ITT 25.2, the Procuring Entity shall conduct the Tender opening in public, in the presence of Tenderers' designated representatives who chooses to attend, and at the address, date and time specified **in the TDS**. Any specific electronic Tender opening procedures required if electronic tendering is permitted in accordance with ITT 23.1, shall be as specified **in the TDS**.
- 28.2 First, envelopes marked "WITHDRAWAL" shall be opened and read out and the envelopes with the corresponding Tender shall not be opened but returned to the Tenderer. No Tender withdrawal shall be permitted unless the corresponding withdrawal notice contains a valid authorization to request the withdrawal and is read out at Tender opening.
- 28.3 Next, envelopes marked "SUBSTITUTION" shall be opened and read out and exchanged with the corresponding Tender being substituted, and the substituted Tender shall not be opened, but returned to the Tenderer. No Tender substitution shall be permitted unless the corresponding substitution notice contains a valid authorization to request the substitution and is read out at Tender opening.
- 28.4 Envelopes marked "Modification" shall be opened and read out with the corresponding Tender. No Tender modification shall be permitted unless the corresponding modification notice contains a valid authorization to request the modification and is read out at Tender opening. Only Tenders that are opened and read out at Tender opening shall be considered further.
- 28.5 Next, all remaining envelopes shall be opened one at a time, reading out: the name of the Tenderer and the Tender Price(s), including any discounts and alternative Tenders, and indicating whether there is a modification; the presence or absence of a Tender Security or Tender-Securing Declaration; and any other details as the Procuring Entity may consider appropriate.
- 28.6 Only Tenders, alternative Tenders and discounts that are opened and read out at Tender opening shall be considered further in the evaluation. The Form of Tender and the Price Schedules are to be initialed by representatives of the Procuring Entity attending Tender opening in the manner specified **in the TDS**.
- 28.7 The Procuring Entity shall neither discuss the merits of any Tender nor reject any Tender (except for late Tenders, in accordance with ITT 24.1).
- 28.8 The Procuring Entity shall prepare a record of the Tender opening that shall include, as a minimum:
- a) The name of the Tenderer and whether there is a withdrawal, substitution, or modification;
 - b) The Tender Price, per lot if applicable, including any discounts;
 - c) Any alternative Tenders; and
 - d) The presence or absence of a Tender Security or a Tender-Securing Declaration.
- 28.9 The Tenderers' representatives who are present shall be requested to sign the minutes. The omission of a Tenderer's signature on the minutes shall not invalidate the contents and effect of the minutes. A copy of the tender opening register shall be distributed to all Tenderers upon request.

E. Evaluation and Comparison of Tenders

29. Confidentiality

- 29.1 Information relating to the evaluation of Tenders and recommendation of contract award, shall not be disclosed to Tenderers or any other persons not officially concerned with the Tendering process until the Notification of Intention to Award the Contract is transmitted to all Tenderers in accordance with ITT 42.
- 29.2 Any effort by a Tenderer to influence the Procuring Entity in the evaluation of the Tenders or Contract award decisions may result in the rejection of its Tender.
- 29.3 Not with standing ITT 27.2, from the time of Tender opening to the time of Contract award, if any Tenderer wishes to contact the Procuring Entity on any matter related to the Tendering process, it should do so in writing.

30. Clarification of Tenders

- 30.1 To assist in the examination, evaluation, and comparison of the Tenders, and qualification of the Tenderers, the Procuring Entity may, at its discretion, ask any Tenderer for a clarification of its Tender. Any clarification submitted by a Tenderer that is not in response to a request by the Procuring Entity shall not be considered. The Procuring Entity's request for clarification and the response shall be in writing. No change in the prices or substance of the Tender shall be sought, offered, or permitted, except to confirm the correction of arithmetic errors discovered by the Procuring Entity in the evaluation of the Tenders, in accordance with ITT32.
- 30.2 If a Tenderer does not provide clarifications of its Tender by the date and time set in the Procuring Entity's request for clarification, its Tender may be rejected.

31. Deviations, Reservations, and Omissions

- 31.1 During the evaluation of Tenders, the following definitions apply:
- a) "Deviation" is a departure from the requirements specified in the tendering document;
 - b) "Reservation" is the setting of limiting conditions or withholding from complete acceptance of the requirements specified in the tendering document; and
 - c) "Omission" is the failure to submit part or all of the information or documentation required in the tendering document.

32. Determination of Responsiveness

- 32.1 The Procuring Entity's determination of a Tender's responsiveness is to be based on the contents of the Tender itself, as defined in ITT 11.
- 32.2 A substantially responsive Tender is one that meets the requirements of the tendering document without material deviation, reservation, or omission. A material deviation, reservation, or omission is one that;
- a) If accepted, would:
 - i. Affect in any substantial way the scope, quality, or performance of the Information System specified in the Contract; or
 - ii. Limit in any substantial way, in consistent with the tendering document, the Procuring Entity's rights or the Tenderer's obligations under the proposed Contract; or

- b) if rectified, would unfairly affect the competitive position of other Tenderers presenting substantially responsive Tenders.

32.3 The Procuring Entity shall examine the technical aspects of the Tender in particular, to confirm that all requirements of Section V, Procuring Entity's Requirements have been met without any material deviation, reservation, or omission.

32.4 To be considered for Contract award, Tenderers must have submitted Tenders:

- a) for which detailed Tender evaluation using the same standards for compliance determination as listed in ITT 29 and ITT 30.3 confirms that the Tenders are commercially and technically responsive, and include the hardware, Software, related equipment, products, Materials, and other Goods and Services components of the Information System in substantially the full required quantities for the entire Information System or, if allowed in the TDS ITT 35.8, the individual Subsystem, lot or slice Tender on; and are deemed by the Procuring Entity as commercially and technically responsive; and
- b) that offer Information Technologies that are proven to perform up to the standards promised in the tender by having successfully passed the performance, benchmark, and/or functionality tests the Procuring Entity may require, pursuant to ITT 39.3.

33. Non-material Non-conformities

33.1 Provided that a Tender is substantially responsive, the Procuring Entity may waive any nonconformity in the Tender that does not constitute a material deviation, reservation or omission.

33.2 Provided that a Tender is substantially responsive, the Procuring Entity may request that the Tenderer submit the necessary information or documentation, within a reasonable period of time, to rectify nonmaterial non- conformities in the Tender related to documentation requirements. Requesting information or documentation on such non-conformities shall not be related to any aspect of the price of the Tender. Failure of the Tenderer to comply with the request may result in the rejection of its Tender.

33.3 Provided that a Tender is substantially responsive, the Procuring Entity shall rectify quantifiable nonmaterial non-conformities related to the Tender Price. To this effect, the Tender Price shall be adjusted, for comparison purposes only, to reflect the price of a missing or non-conforming item or component in the manner specified **in the TDS**.

34. Correction of Arithmetical Errors

34.1 The tender sum as submitted and read out during the tender opening shall be absolute and final and shall not be the subject of correction, adjustment or amendment in anyway by any person or entity.

34.2 Provided that the Tender is substantially responsive, the Procuring Entity shall handle errors on the following basis:

- a) Any error detected if considered a major deviation that affects the substance of the tender, shall lead to disqualification of the tender as non-responsive.
- b) Any errors in the submitted tender arising from a miscalculation of unit price, quantity, subtotal and total bid price shall be considered as a major deviation that affects the substance of the tender and shall lead to disqualification of the tender as non-responsive. and
- c) If there is a discrepancy between words and figures, the amount in words shall prevail,

unless the amount expressed in words is related to an arithmetic error, in which case the amount in figures shall prevail.

35. Conversion to Single Currency

35.1 For evaluation and comparison purposes, the currency(ies) of the Tender shall be converted into a single currency as specified **in the TDS**.

36. Margin of Preference and Reservations

36.1 A margin of preference on local contractors may be allowed only when the contract is open to international competitive tendering where foreign contractors are expected to participate in the tendering process and where the contract exceeds the value/ threshold specified in the Regulations.

36.2 A margin of preference shall not be allowed unless it is specified so in the **TDS**.

36.3 Contracts procured on basis of international competitive tendering shall not be subject to reservations exclusive to specific groups as provided in ITT 34.4.

36.4 Where it is intended to reserve a contract to a specific group of businesses (these groups are Small and Medium Enterprises, Women Enterprises, Youth Enterprises and Enterprises of persons living with disability, as the case maybe), and who are appropriately registered as such by the authority to be specified in the **TDS**, a procuring entity shall ensure that the invitation to tender specifically indicates in the **TDS** that only businesses or firms belonging to the specified group are eligible to tender. No tender shall be reserved to more than one group. If not so stated in the Invitation to Tender and in the Tender documents, the invitation to tender will be open to all interested tenderers.

37. Evaluation of Tenders

37.1 The Procuring Entity shall use the criteria and methodologies listed in this ITT and Section III, Evaluation and Qualification criteria. No other evaluation criteria or methodologies shall be permitted. By applying the criteria and methodologies the Procuring Entity shall determine the Best Evaluated Tender.

37.2 To evaluate a Tender, the Procuring Entity shall consider the following:

- a) Price adjustment due to discounts offered in accordance with ITT 14.4;
- b) converting the amount resulting from applying (a) and (b) above, if relevant, to a single currency in accordance with ITT 33;
- c) price adjustment due to quantifiable non material non-conformities in accordance with ITT 31.3; and
- d) any additional evaluation factors specified **in the TDS** and Section III, Evaluation and Qualification Criteria.

38 Preliminary Examination

38.1 The Procuring Entity will examine the tenders, to determine whether they have been properly signed, whether required sureties have been furnished, whether any computational errors have been made, whether required sure ties have been furnished and are substantially complete (e.g., not missing key parts of the tender or silent on excessively large portions of the Technical Requirements). In the case where a pre-qualification process was undertaken for the Contract (s) for which these tendering documents have been issued, the Procuring Entity will

ensure that each tender is from a pre-qualified Tenderer and, in the case of a Joint Venture, that partners and structure of the Joint Venture are unchanged from those in the pre-qualification.

39 Technical Evaluation

39.1 The Procuring Entity will examine the information supplied by the Tenderers Pursuant to ITT 11 and ITT 16, and in response to other requirements in the Tendering document, considering the following factors:

- a) Overall completeness and compliance with the Technical Requirements; and deviations from the Technical Requirements;
- b) suitability of the Information System offered in relation to the conditions prevailing at the site; and the suitability of the implementation and other services proposed, as described in the Preliminary Project Plan included in the tender;
- c) achievement of specified performance criteria by the Information System;
- d) compliance with the time schedule called for by the Implementation Schedule and any alternative time schedules offered by Tenderers, as evidenced by a milestone schedule provided in the Preliminary Project Plan included in the tender;
- e) type, quantity, quality, and long-term availability of maintenance services and of any critical consumable items necessary for the operation of the Information System;
- f) any other relevant technical factors that the Procuring Entity deems necessary or prudent to take into consideration;
- g) any proposed deviations in the tender to the contractual and technical provisions stipulated in the tendering documents.

39.2 The Procuring Entity's evaluation of tenders will consider technical factors, in addition to cost factors. The Technical Evaluation will be conducted following the Criteria specified in Section III, Evaluation and Qualification Criteria, which permits a comprehensive assessment of the technical merits of each Tender. All tenders that fail to pass this evaluation will be considered non-responsive and will not be evaluated further.

39.3 Where alternative technical solutions have been allowed in accordance with ITT 13, and offered by the Tenderer, the Procuring Entity will make a similar evaluation of the alternatives. Where alternatives have not been allowed but have been offered, they shall be ignored.

39.4 Where the tender involves multiple lots or contracts, the tenderer will be allowed to tender for one or more lots (contracts). Each lot or contract will be evaluated in accordance with ITT 35.2. The methodology to determine the lowest evaluated tenderer or tenderers based one lot (contract) or based on a combination of lots (contracts), will be specified in Section III, Evaluation and Qualification Criteria. In the case of multiple lots or contracts, tenderer will be required to prepare the Eligibility and Qualification Criteria Form for each Lot.

40 Financial/ Economic Evaluation

40.1 To evaluate a Tender, the Procuring Entity shall consider the following:

- a) price adjustment due to unconditional discounts offered in accordance with ITT 26.8; excluding provisional sums and contingencies, if any, but including Day work items, where priced competitively.

- b) Price adjustment due to quantifiable non-material non-conformities in accordance with ITT 31.3;
- c) converting the amount resulting from applying (a) to (c) above, if relevant, to a single currency in accordance with ITT 33; and
- d) the evaluation factors indicated in Section III, Evaluation and Qualification Criteria.

If price adjustment is allowed in accordance with ITT 17.9, the estimated effect of the price adjustment provisions of the Conditions of Contract, applied over the period of execution of the Contract, shall not be considered in Tender evaluation.

40.2 The Procuring Entity will evaluate and compare the Tenders that have been determined to be substantially responsive, pursuant to ITT 35.4. The evaluation will be performed assuming either that:

- a) The Contract will be awarded to the Lowest Evaluated Tender for the entire Information System; or
- b) if specified **in the TDS**, Contracts will be awarded to the Tenderers for each individual Subsystem, lot, or slice if so defined in the Technical Requirements whose Tenders result in the Lowest Evaluated Tender/ Tenders for the entire System.

In the latter case, discounts that are conditional on the award of more than one Subsystem, lot, or slice may be offered in Tenders. Such discounts will be considered in the evaluation of tenders as specified **in the TDS**.

41. Comparison of Tenders

- i. The Procuring Entity shall compare all substantially responsive Tenders in accordance with ITT 35.6 to determine the lowest evaluated cost.

42. Abnormally Low Tenders and Abnormally High Tenders

42.2 An Abnormally Low Tender is one where the Tender price in combination with other constituent elements of the Tender appears unreasonably low to the extent that the Tender price raises material concerns as to the capability of the Tenderer to perform the Contract for the offered Tender Price or that genuine competition between Tenderers is compromised.

42.3 In the event of identification of a potentially Abnormally Low Tender, the Procuring Entity shall seek written clarifications from the Tenderer, including detailed price analyses of its Tender price in relation to the subject matter of the contract, scope, proposed methodology, schedule, allocation of risks and responsibilities and any other requirements of the tendering document.

42.4 After evaluation of the price analyses, in the event that the Procuring Entity determines that the Tenderer has failed to demonstrate its capability to perform the Contract for the offered Tender Price, the Procuring Entity shall reject the Tender.

Abnormally High Tenders

42.5 An abnormally high tender price is one where the tender price, in combination with other constituent elements of the Tender, appears unreasonably too high to the extent that the Procuring Entity is concerned that it (the Procuring Entity) may not be getting value for money or it may be paying too high a price for the contract compared with market prices or that genuine competition between Tenderers is compromised.

42.6 In case of an abnormally high price, the Procuring Entity shall make a survey of the

market prices, check if the estimated cost of the contract is correct and review the Tender Documents to check if the specifications, scope of work and conditions of contract are contributory to the abnormally high tenders. The Procuring Entity may also seek written clarification from the tenderer on the reason for the high tender price. The Procuring Entity shall proceed as follows:

- a) If the tender price is abnormally high based on wrong estimated cost of the contract, the Procuring Entity may accept or not accept the tender depending on the Procuring Entity's budget considerations.
- b) If specifications, scope of work and/ or conditions of contract are contributory to the abnormally high tender prices, the Procuring Entity shall reject all tenders and may retender for the contract based on revised estimates, specifications, scope of work and conditions of contract, as the case may be.

42.7 If the Procuring Entity determines that the Tender Price is abnormally too high because genuine competition between tenderers is compromised (*often due to collusion, corruption or other manipulations*), the Procuring Entity shall reject all Tenders and shall institute or cause competent Government Agencies to institute an investigation on the cause of the compromise, before retendering.

43. Unbalanced or Front-Loaded Tenders

43.2 If the Tender that is evaluated as the lowest evaluated cost is, in the Procuring Entity's opinion, seriously unbalanced or front loaded the Procuring Entity may require the Tenderer to provide written clarifications. Clarifications may include detailed price analyses to demonstrate the consistency of the Tender prices with the scope of information systems, installations, proposed methodology, schedule and any other requirements of the tendering document.

43.3 After the evaluation of the information and detailed price analyses presented by the Tenderer, the Procuring Entity may: -

- a) Accept the Tender; or
- b) If appropriate, require that the total amount of the Performance Security be increased, at the expense of the Tenderer, to a level not exceeding twenty percent (20%) of the Contract Price; or
- c) Reject the Tender.

44. Eligibility and Qualification of the Tenderer

44.2 The Procuring Entity shall determine to its satisfaction whether the Tenderer that is selected as having submitted the lowest evaluated and substantially responsive Tender is eligible and meets the qualifying criteria specified in Section III, Evaluation and Qualification Criteria.

44.3 The determination shall be based upon an examination of the documentary evidence of the Tenderer's qualifications submitted by the Tenderer, pursuant to ITT 15.

44.4 Unless otherwise specified in the **TDS**, the Procuring Entity will NOT carry out tests at the time of post- qualification, to determine that the performance or functionality of the Information System offered meets those stated in the Technical Requirements. However, if so specified in the **TDS** the Procuring Entity may carry out such tests as detailed in the **TDS**.

44.5 An affirmative determination shall be a prerequisite for award of the Contract to the Tenderer.

A negative determination shall result in disqualification of the Tender, in which event the Procuring Entity shall proceed to the next lowest evaluated cost or best evaluated Tender, as the case may be, to make a similar determination of that Tenderer's qualifications to perform satisfactorily.

44.6 The capabilities of the manufacturers and subcontractors proposed by the Tenderer that is determined to have offered the Best Evaluated Tender for identified major items of supply or services will also be evaluated for acceptability in accordance with Section III, Evaluation and Qualification Criteria. Their participation should be confirmed with a Form of intent between the parties, as needed. Should a manufacturer or subcontractor be determined to be unacceptable, the Tender will not be rejected, but the Tenderer will be required to substitute an acceptable manufacturer or subcontractor without any change to the Tender price. Prior to signing the Contract, the corresponding Appendix to the Contract Agreement shall be completed, listing the approved manufacturers or subcontractors for each item concerned.

44.7 Foreign tenderers are required to source at least forty (40%) percent of their contract inputs (in supplies, subcontracts and labor) from national suppliers and contractors. To this end, a foreign tenderer shall provide in its tender documentary evidence that this requirement is met. Foreign tenderers not meeting this criterion will be automatically disqualified. Information required to enable the Procuring Entity determine if this condition is met shall be provided in for this purpose is be provided in *"SECTION III- EVALUATION AND QUALIFICATION CRITERIA*.

45. Procuring Entity's Right to Accept Any Tender, and to Reject Any or All Tenders

45.2 The Procuring Entity reserves the right to accept or reject any Tender, and to annul the Tendering process and reject all Tenders at any time prior to contract award, without there by incurring any liability to Tenderers. In case of annulment, all Tenders submitted and specifically, Tender securities, shall be promptly returned to the Tenderers.

F. AWARD OF CONTRACT

46. Award Criteria

46.2 Subject to ITT 40, the Procuring Entity shall award the Contract to the successful tenderer whose tender has been determined to be the Lowest/ best Evaluated Tender. The determination of the lowest/ Best Evaluated Tender will be made in accordance to one of the two options as defined in the **TDS**. The methodology options are:

The Procuring Entity shall award the Contract to the successful tenderer whose tender has been determined to be the Lowest Evaluated Tender

- a) When **rated criteria are used**: The Tenderer that meets the qualification criteria and whose Tender:
 - i. Is substantially responsive; and
 - ii. Is the Best Evaluated Tender (i.e. the Tender with the highest combined technical/ quality/ price score); or
- b) When **rated criteria are not used**: The Tenderer that meets the qualification criteria and whose Tender has been determined to be:
 - i. Most responsive to the tendering document; and
 - ii. The lowest evaluated cost.

47. Procuring Entity's Right to Vary Quantities at Time of Award

47.2 The Procuring Entity reserves the right at the time of Contract award to increase or decrease, by the percentage (s) for items as indicated **in the TDS.**

48. Notice of Intention to enter into a Contract/ Notification of award

48.2 Upon award of the contract and Prior to the expiry of the Tender Validity Period the Procuring Entity shall issue a Notification of Intention to Enter into a Contract/ Notification of award to all tenderers which shall contain, at a minimum, the following information:

- a) The name and address of the Tenderer submitting the successful tender;
- b) The Contract price of the successful tender;
- c) a statement of the reason(s) the tender of the unsuccessful tenderer to whom the letter is addressed was unsuccessful, unless the price information in (c) above already reveals the reason;
- d) the expiry date of the Standstill Period; and
- e) instructions on how to request a debriefing and/ or submit a complaint during the standstill period;

49. Standstill Period

49.2 The Contract shall not be signed earlier than the expiry of a Standstill Period of 14 days to allow any dissatisfied tender to launch a complaint. Where only one Tender is submitted, the Standstill Period shall not apply.

49.3 Where a Standstill Period applies, it shall commence when the Procuring Entity has transmitted to each Tenderer the Notification of Intention to Enter in to a Contract with the successful Tenderer.

50. Debriefing by the Procuring Entity

50.2 On receipt of the Procuring Entity's Notification of Intention to Enter into a Contract referred to in ITT 43, an unsuccessful tenderer may make a written request to the Procuring Entity for a debriefing on specific issues or concerns regarding their tender. The Procuring Entity shall provide the debriefing within five days of receipt of the request.

50.3 Debriefings of unsuccessful Tenderers may be done in writing or verbally. The Tenderer shall bear its own costs of attending such a debriefing meeting.

51. Letter of Award

51.2 Prior to the expiry of the Tender Validity Period and upon expiry of the Standstill Period specified in ITT44.1, upon addressing a complaint that has been filed within the Standstill Period, the Procuring Entity shall transmit the Letter of Award to the successful Tenderer. The letter of award shall request the successful tenderer to furnish the Performance Security within 21days of the date of the letter.

52. Signing of Contract

52.2 Upon the expiry of the fourteen days of the Notification of Intention to enter in to contract and upon the parties meeting their respective statutory requirements, the Procuring Entity shall send the successful Tenderer the Contract Agreement.

- 52.3 Within fourteen (14) days of receipt of the Contract Agreement, the successful Tenderer shall sign, date, and return it to the Procuring Entity.
- 52.4 The written contract shall be entered into within the period specified in the notification of award and before expiry of the tender validity period.
- 52.5 Notwithstanding ITT 47.2 above, in case signing of the Contract Agreement is prevented by any export restrictions attributable to the Procuring Entity, to Kenya, or to the use of the Information System to be supplied, where such export restrictions arise from trade regulations from a country supplying those Information System, the Tenderer shall not be bound by its Tender, provided that the Tenderer can demonstrate that signing of the Contract Agreement has not been prevented by any lack of diligence on the part of the Tenderer in completing any formalities, including applying for permits, authorizations and licenses necessary for the export of the Information System under the terms of the Contract.

53. Performance Security

- 53.2 Within twenty-one (21) days of the receipt of the Form of Acceptance from the Procuring Entity, the successful Tenderer shall furnish the performance security in accordance with the General Conditions, subject to ITT38.2 (b), using for that purpose the Performance Security Form included in Section X, Contract Forms, or another form acceptable to the Procuring Entity. If the Performance Security furnished by the successful Tenderer is in the form of a bond, it shall be issued by a bonding or insurance company that has been determined by the successful Tenderer to be acceptable to the Procuring Entity. A foreign institution providing a Performance Security shall have a correspondent financial institution located in Kenya.
- 53.3 Failure of the successful Tenderer to submit the above-mentioned Performance Security or sign the Contract shall constitute sufficient grounds for the annulment of the award and forfeiture of the Tender Security. In that event the Procuring Entity may award the Contract to the Tenderer offering the next Best Evaluated Tender.

49 Publication of Procurement Contract

Within fourteen days after signing the contract, the Procuring Entity shall publish the awarded contract at its notice boards and websites; and on the Website of the Authority. At the minimum, the notice shall contain the following information:

- a) Name and address of the Procuring Entity;
- b) Name and reference number of the contract being awarded, a summary of its scope and the selection method used;
- c) The name of the successful Tenderer, the final total contract price, the contract duration.
- d) Dates of signature, commencement and completion of contract;
- e) Names of all Tenderers that submitted Tenders, and their Tender prices as read out at Tender opening.

50. Adjudicator

- 50.1 Unless **the TDS** states otherwise, the Procuring Entity proposes that the person named **in the TDS** be appointed as Adjudicator under the Contract to assume the role of informal Contract dispute mediator, as described in GCC Clause 43.1. In this case, a résumé of the named person is attached to the TDS. The proposed hourly fee for the Adjudicator is specified in the TDS. The expenses that would be considered reimbursable to the Adjudicator are also specified **in the TDS**. If a Tenderer does not accept the Adjudicator proposed by the Procuring Entity, it should

state its non-acceptance in its Tender Form and make a counter proposal of an Adjudicator and an hourly fee, attaching résumé of the alternative. If the successful Tenderer and the Adjudicator nominated **in the TDS** happen to be from the same country, and this is not Kenya too, the Procuring Entity reserves the right to cancel the Adjudicator nominated **in the TDS** and propose a new one. If by the day the Contract is signed, the Procuring Entity and the successful Tenderer have not agreed on the appointment of the Adjudicator, the Adjudicator shall be appointed, at the request of either party, by the Appointing Authority specified in the SCC clause relating to GCC Clause 43.1.4, or if no Appointing Authority is specified there, the Contract will be implemented without an Adjudicator.

51. Procurement Related Complaints

- i.** The procedures for making a Procurement-related Complaint are as specified in the **TDS**.

SECTION II - TENDER DATA SHEET (TDS)

The following specific data for the Information System to be procured shall complement, supplement, or amend the provisions in the Instructions to Tenderers (ITT). Whenever there is a conflict, the provisions here in shall prevail over those in ITT.

Reference to ITC Clause	PARTICULARS OF APPENDIX TO INSTRUCTIONS TO TENDERS
A. General	
ITT 1.1	The reference number of the Invitation to Tender (ITT) is: KCAA/045/2022-2023 The Procuring Entity is: KENYA CIVIL AVIATION AUTHORITY The name of the ITT is: SUPPLY, DELIVERY, REMODELING AND MODERNIZATION OF DATACENTER, UPGRADE OF LAN, EXTENSION OF WIFI/CCT COVERAGE AND INSTALLATION OF CLEAN POWER FOR ICT LABORATORY AT EASA. The number and identification of lots (contracts) comprising this ITT is: ONE (1) LOT
ITT 1.3 (a)	Electronic –Procurement System shall NOT BE USED The Procuring Entity shall use the following electronic-procurement system to manage this Tendering process: NOT APPLICABLE
ITT 3.3	The firms (if any) that provided consulting services for the contract being tendered for are: NOT APPLICABLE
ITT 4.1	Maximum number of members in the Joint Venture (JV) shall be: NOT APPLICABLE
ITT 4.10	The Procuring Entity may require tenders to be registered with ICT AUTHORITY -N/A
B. Tendering Document	
ITT 8.1	For clarification of tender purposes only, the Procuring Entity's address is : Attention: MANAGER PROCUREMENT Address: P.O. Box 30163-00100 Floor/ Room number: GROUND FLOOR, AVIATION HOUSE City: NAIROBI Country: KENYA Telephone: +254 709 725 000 Electronic mail: :procurement@kcaa.or.ke Request for clarification should be received by KCAA not later than WEDNESDAY, 15TH FEBRUARY, 2023 AT 5:00PM.
ITT 8.2	Web page: www.kcaa.or.ke
ITT 8.4	A pre-tender meeting SHALL NOT take place on Thursday, 16th February, 2023 at 1.00pm to 2.30pm, at the East African School of Aviation.
ITT 9.1	The Procuring Entity shall publish its response at the website: www.kcaa.or.ke
C. Preparation of Tenders	
ITT 11.1 (k)	The Tenderer shall submit with its tender the following additional documents: as indicated in the evaluation criteria
ITT 13.1	Alternative Tenders ARE NOT PERMITTED.
ITT 13.2	Alternatives to the Time Schedule shall be permitted. If alternatives to the Time Schedule are permitted, the evaluation method will be as specified in Section III, Evaluation and Qualification Criteria.
ITT 13.4	Alternative technical solutions shall be permitted for the following parts of the Information Systems: NONE.

Reference to ITC Clause	PARTICULARS OF APPENDIX TO INSTRUCTIONS TO TENDERS
ITT 15.2	Prequalification has not been undertaken. NOT APPLICABLE
ITT 16.2 (a)	In addition to the topics described in ITT Clause 16.2 (a), the Preliminary Project Plan must address the following topics: Implementation plan; Warranty Defect Repair and Technical Support Service Sub-Plan
ITT 16.3	In the interest of effective integration, cost-effective technical support and re-training and staffing costs, Tenderers are required to offer specific brand names and models for the following limited number of specific items: NONE
ITT 17.2	The Tenderer must not tender recurrent cost – NOT APPLICABLE
ITT 17.2 (a)	The tenderer must NOT tender for contracts of Recurrent Cost items not included in the main Contract.
ITT 17.5	The incoterms edition is: Incoterms® 2020
ITT 17.5 (a)	Named place of destination (or project site) is: EAST AFRICAN SCHOOL OF AVIATION, NAIROBI
ITT 17.6 (a) and (d)	Place of destination: EAST AFRICAN SCHOOL OF AVIATION, NAIROBI Final destination (Project Site): EAST AFRICAN SCHOOL OF AVIATION, COUNTRY, KENYA
ITT 17.9	The prices quoted by the Tenderer SHALL NOT be subject to adjustment during the performance of the Contract.
ITT 18.1	The Tenderer is required to quote ONLY in KENYA SHILLINGS CURRENCY OR ANY OTHER FREELY CONVERTIBLE CURRENCY
ITT 19.1	The Tender validity period shall be 91 days .
ITT 19.3 (a)	The Tender price shall be adjusted by the following factor(s): NOT APPLICABLE
ITT 20.1	A Tender Security of KENYA SHILLINGS TWO MILLION ONLY (KSHS. 2,000,000.00 for both lots) SHALL BE required A Tender-Securing Declaration SHALL NOT be required. The amounts and currency of the Tender Security shall be KENYA SHILLINGS as stipulated
ITT 20.3	Other types of acceptable securities are: As provided for by PPRA
ITT 20.10	If the tenderer incurs any of the actions prescribed in subparagraphs (a) or (b) of this provision, the Procuring Entity will declare the tenderer ineligible to be awarded contracts by the Procuring Entity for a period of one year .
ITT 21.1	In addition to the original of the Tender, the number of copies is: ONE ORIGINAL IN PAPER FORMAT, AND ONE COPY IN PAPER FORMAT – BOTH TO BE WELL SERIALIZED AND SEQUENTIALLY PAGINATED .
ITT 21.3	The written confirmation of authorization to sign on behalf of the Tenderer shall consist of: POWER OF ATTORNEY SIGNED BY THE DONOR AND DULY WITNESSED BY AN ADVOCATE OR COUNSEL.

Reference to ITC Clause	PARTICULARS OF APPENDIX TO INSTRUCTIONS TO TENDERS
D. Submission and Opening of Tenders	
ITT 23.1	For Tender submission purposes only, the Procuring Entity's address is: Attention: DIRECTOR GENERAL KENYA CIVIL AVIATION AUTHORITY GROUND FOOR, AVIATION HOUSE, JOMO KENYATTA INTERNATIONAL AIRPORT: P.O. BOX 30163-00100 <u>NAIROBI</u> The deadline for Tender submission is: Date: THURSDAY, 23RD FEBRUARY, 2023 TIME: 11:00 AM, EAT AFRICAN TIME TENDERERS SHALL NOT have the option of submitting their Tenders electronically
ITT 23.1	Tenderers SHALL NOT have the option of submitting their tenders electronically.
ITT 26.1	The tender opening shall take place at: GROUND FLOOR, AVIATION HOUSE, JOMO KENYATTA INTERNATIONAL AIRPORT, NAIROBI DATE: THURSDAY, 23RD FEBRUARY 2023 TIME: 11:00 AM
ITT 27.1	The electronic tender opening procedures shall be: NOT APPLICABLE
ITT 27.6	The form of tender and price schedules shall be initialed by: AT LEAST THREE (3) representatives of the Procuring Entity conducting Tender opening
E. Evaluation, and Comparison of Tenders	
ITT 31.3	The adjustment shall be based on the highest price of the item or component as quoted in other substantially responsive Tenders. If the price of the item or component cannot be derived from the price of other substantially responsive Tenders, the Procuring Entity shall use its best estimate. – NOT APPLICABLE. THE TENDER AWARDS SHALL BE DONE TO THE LOWEST EVALUATED BIDDER WHO MEETS ALL THE REQUIREMENTS OF THE TENDER.
ITT 33.1	The currency(ies) of the tender shall be converted into a single currency as follows: KENYA SHILLINGS The currency that shall be used for tender evaluation and comparison purposes to convert all tender prices expressed in various currencies into a single currency is : Kenya Shillings The source of exchange rate shall be: THE CENTRAL BANK OF KENYA. The date for the exchange rate shall be: TENDER/OPENING CLOSING DATE
ITT 34.2	A margin of preference SHALL NOT BE allowed.
ITT 34.4	The invitation of tender is extended to the following group that qualify for reservations: NOT APPLICABLE.

Reference to ITC Clause	PARTICULARS OF APPENDIX TO INSTRUCTIONS TO TENDERS
ITT 35.8 (b)	<p>Tenderers shall be allowed to quote separate prices for different lots (contracts for subsystems, lots, or slices of overall information systems) and the methodology to determine the lowest tenderer is specified in section III, Evaluation and Qualification Criteria.</p> <p>Discount that are conditional on the award of more than one subsystem, lot, or slice may be offered in tenders and such discounts shall be considered in price evaluation.</p>
ITT 39.3	<p>As additional qualification measures, the Information System (or component/ parts of it) offered by the tenderer with the best evaluated tender may be subjected to the following tests and performance benchmarks prior to contract award.</p>
ITT 43.1	<p>The Award will be made on the basis not rated criteria pursuant to ITT 35.7, if applicable, in accordance with section III, Evaluation and Qualification Criteria.</p>
ITT 42.1	<p>The maximum percentage by which quantities may be increased is: 15%</p> <p>The maximum percentage by which quantities may be decreased is: 15%</p> <p>The items for which the procuring entity may increase or decrease the quantities are the following: TO BE CONFIRMED DURING CONTRACT SIGNING.</p>
ITT 50.1	<p>The proposed adjudicator is: TO BE CONFIRMED DURING CONTRACT SIGNING.</p>
ITT 52.1	<p>The procedures for making a Procurement-related Complaint are detailed in the “Notice of Intention to Award the Contract” herein and are also available from the PPRA website info@ppra.go.ke or complaints@ppra.go.ke.</p> <p>For the attention: DIRECTOR GENERAL Title/position: DIRECTOR GENERAL Procuring Entity: KENYA CIVIL AVIATION AUTHORITY Email address: PROCUREMENT@KCAA.OR.KE</p> <p>In summary, a Procurement-related Complaint may challenge any of the following:</p> <ul style="list-style-type: none"> a) the terms of the Tendering Documents; and b) the Procuring Entity’s decision to award the contract.

SECTION III - EVALUATION AND QUALIFICATION CRITERIA

a) **General Provision**

- i. Wherever a Tenderer is required to state a monetary amount, Tenderers should indicate the Kenya Shilling equivalent using the rate of exchange determined as follows:
 1. For construction turnover or financial data required for each year- Exchange rate prevailing on the last day of the respective calendar year (in which the amounts for that year are to be converted) was originally established.
 2. Value of single contract- Exchange rate prevailing on the date of the contract signature.
 3. Exchange rates shall be taken from the publicly available source identified in the ITT. Any error in determining the exchange rates in the Tender may be corrected by the Procuring Entity.
- ii. This Section contains all the criteria that the Procuring Entity shall use to evaluate Tenders and qualify Tenderers. No other factors, methods or criteria shall be used. The Tenderer shall provide all the information requested in the forms included in Section IV, Tendering Forms. The Procuring Entity should use **the Standard Tender Evaluation Report for Goods and Works** for evaluating Tenders.
- iii. Multiple Contracts; multiple contracts will be permitted in accordance with ITT35.6. Tenderers are evaluated on basis of Lots and the lowest evaluated tenderer identified for each Lot. The Procuring Entity will select one Option of the two Options listed below for award of Contracts.

OPTION 1 -

- a) If a tenderer wins only one Lot, the tenderer will be awarded a contract for that Lot, provided the tenderer meets the Eligibility and Qualification Criteria for that Lot.
 - b) If a tenderer wins more than one Lot, the tender will be awarded contracts for all won Lots, provided the tenderer meets the aggregate Eligibility and Qualification Criteria for all the Lots. The tenderer will be awarded the combination of Lots for which the tenderer qualifies and the others will be considered for award to second lowest the tenderers.
- c) **Evaluation and contract award Criteria**

The Procuring Entity shall use the criteria and methodologies listed in this Section to evaluate tenders and arrive at the Lowest Evaluated Tender. The tender that (i) meets the qualification criteria, (ii) has been determined to be substantially responsive to the Tender Documents, and (iii) is determined to have the Lowest Evaluated Tender price shall be selected for award of contract.

d) **Preliminary examination for Determination of Responsiveness**

Tenders that do not pass the Preliminary Examination will be considered non-responsive and will not be considered further.

a) **Mandatory/preliminary evaluation**

The following criteria will be used to determine mandatory/preliminary responsiveness of the bidders.

Note that all bidders must provide all the requirements under mandatory for them to proceed to the next level of evaluation.

No.	Mandatory eligibility criteria by the tenderer
1.	Eligibility - Bidders and their associated firms who have existing ongoing contracts with KCAA which have delayed beyond the original scheduled completion period in the contract without proper justification or who according to KCAA records/authorized Government Agencies, have failed in performance of previous contracts or have had their previous contracts terminated for non-performance are not eligible to participate.
2.	Provide a tender security of Kenya Shillings One Hundred and Thirty Thousand Only (KSHS. 2,000,000.00 for both lots) in form of a demand bank guarantee as follows in Kenya Shillings valid for 121 days
3.	The tender is signed by the person holding a valid power of attorney, without material deviation, reservation or omission. Attach a copy of letter granting power of attorney.
4.	Tenderer's eligibility – duly filled, signed and stamped confidential business questionnaire
5.	<p>Vendor's experience –</p> <p>The bidder MUST have successfully supplied, installed and commissioned at least three (3) projects comprising of fully functional datacentres whose value should be over Kshs 50 million and three (3) LAN projects whose value should be over Kshs 30 million each. For each of the projects provided, attach the following:</p> <ul style="list-style-type: none"> i. A list of the projects undertaken with details which must include the name of the client, contract description, contract value, year carried out, status of whether completed or not and contact person (name and email address). ii. Provide copies of the stated contracts OR LPOs as evidence and their corresponding recommendation letters. iii. The sites/clients must include at least One public entity each for datacentre and LAN projects. KCAA will carry out due diligence on the sites provided. <p>NOTE:- For avoidance of doubt and clarity, at least three satisfactorily completed projects each for datacentres and LAN meeting the requirements stated are required.</p>
6.	Tenderer is a legally registered entity. Attach copy of registration certificate from the country of origin
7.	Duly Filled, Signed and Stamped Form of Tender which is valid for 91 days
8.	Financial Resources – provide a confirmation on your letter head that your firm has financial base that will be able to successfully and timely deliver the project/s if awarded
9.	Duly filled and signed Price Schedules completed in accordance with ITT 14 and ITT 19
10.	Attach a Valid Tax Compliance Certificate from Kenya Revenue Authority
11.	Duly filled Certificate of Independent Tender Determination
12.	1 Original & 1 copy of bid documents (Ensure serialization/pagination in a sequential manner of ALL pages for the bid submitted)
13.	<p>The bidder MUST provide a soft copy of the bidding documents with the following attributes: -</p> <ul style="list-style-type: none"> i. The documents should be in PDF ii. The PDF document must be searchable with OCR iii. All diagrams, designs and drawings in the PDF document should be in their original format i.e. NOT scanned from a manual printout. iv. The document should be in a well labelled flash disk – indicate company name
14.	Goods, equipment are from eligible countries. Attach a duly filled Country of Origin Declaration Form
15.	The Tenderer is not debarred by PPRA or any other Authority. submit a duly filled and signed Form SD1
16.	Self-declaration that the person/tenderer will not engage in any corrupt or fraudulent practice. Submit a duly filled and signed Form SD2
17.	Project commitment/implementation plan – Bidders MUST attach sample project plan/work program clearly indicating the expected completion date of the project (provide details). Indicate expected completion for each deliverable.
18.	Provide confirmation of tenderer having no conflict of interest
19.	Submit a statement in the bidders letter head that the company is not insolvent, receivership, bankrupt or in the process of being wound up
20.	The bidders shall submit the latest three years Audited Financial Statements – 2021 or 2020, and 2019
21.	Attach Accreditation Certification for ICT Networks (ICTA 4 or above) by ICT Authority
22.	Attach Telecommunications Contractor License from Communications Authority.
23.	<p>Warranty</p> <p>The warranty period of the proposed equipment shall be a minimum of 3 (three) years.</p> <p>The bidder MUST indicate a detailed maintenance and support plan for the equipment within the warranty periods. Further, provide documentation indicating that the warranty for the hardware covers the East African region.</p> <p>The bidder MUST indicate the total expected life of the equipment to be supplied.</p>

No.	Mandatory eligibility criteria by the tenderer
24.	<p>SLA to be provided – The bidder shall include a proposed SLA to be adopted after commissioning of the project. The SLA should include the following key deliverables: -</p> <ul style="list-style-type: none"> Period – 3 years Services to be provided within the SLA Response times Escalations Penalties <p>Further details for the required SLA are available in the detailed technical specifications document</p>
25.	<p>Work plan and Methodology - A detailed technical implementation strategy of the project with the following aspects: -</p> <ul style="list-style-type: none"> Detailed approach, methodology and work plan Proposed site drawings and technical diagrams Details of staff to be involved in the project. These should be the staff with the relevant certifications and experience. Step by step tasks from delivery to maintenance and support. Documentation of the project. Risk management
26.	<p>The bidder MUST provide coloured manufacturer’s brochures/technical datasheets for the following equipment: -</p> <p>Lot 1:</p> <ul style="list-style-type: none"> Server racks UPSs Air conditioners Switches Access control system Fire detection and suppression system Structured cabling components. Clean power solution components. <p>Lot 2</p> <ul style="list-style-type: none"> Network cabinets UPSs Switches CCTV system WLAN system Structured cabling
27.	<p>Manufacturer Authorization.</p> <p>LOT1:-</p> <p>Bidders must attach manufacturers authorization of the proposed equipment or device under the following categories;-</p> <ul style="list-style-type: none"> Raised floor system Server racks UPSs Air conditioners Switches Access control system Fire detection and suppression system Structured cabling CCTV system <p>LOT2:-</p> <p>Bidders must attach manufacturers authorization of the proposed equipment or device under the following categories;-</p> <ul style="list-style-type: none"> Server racks UPSs Switches. CCTV system WLAN system Structured cabling -

TECHNICAL EVALUATION:

- a) Evaluations will be based on compliance with the mandatory technical specifications provided.
- b) Bidders **MUST** demonstrate that they meet all the Mandatory technical specifications indicated below. These include providing drawings, catalogues/data sheets and any other relevant particulars and clearly provide a written declaration that this will be adhered by filling the compliance checklist form under vendor’s response column.
- c) Bidders **MUST** respond in writing against each requirement in the vendors’ response column. Writing ‘Complied’, ‘Yes’ ‘Meets the Specifications ’or simply ticking (✓) will not be accepted.

PART 1: LOT 1 - REMODELING/MODERNIZATION OF THE DATA CENTER AND INSTALLATION OF CLEAN POWER FOR THE ICT LABORATORY.

THE FOLLOWING CRITERIA WILL BE USED TO DETERMINE MANDATORY TECHNICAL DOCUMENTATION RESPONSIVENESS OF THE BIDDERS FOR LOT 1

All bidders must provide the following mandatory technical documentation to be considered as responsive in order to proceed to the next stage of evaluation for LOT 1. The bidder **MUST** provide detailed explanations of how they shall fully meet the required technical documentation. Bidders should **NOT** write complied or just tick (✓) against a requirement, a full detailed explanation is required. **ALL THE REQUIREMENTS ARE MANDATORY.**

Mandatory Technical Documentation Requirements			
No.	Item/Specification	Requirement	Bidder’s Response and page number reference.
1.	Vendor’s experience in data center design, establishment and management	The bidder MUST have successfully designed, implemented, supported and maintained at least three (3) data centers EACH with a value of at least KES 40 (Forty) million within the last six (6) years. For each of the three (3) sites, attach the following: - i. Name of site and client ii. Valid copies of LSO or contracts iii. Corresponding completion certificates and/or Corresponding recommendation letters iv. Contact person’s name and email address	
2.	Staff competence in data center power management vendor certification of the proposed power solution.	The bidder MUST have at least two (2) engineers trained and experienced in data center power installation and management for the proposed solution. For each of the engineers, attach the following: - i. Attach CVs ii. Attach copies of certificates showing training in power management vendor certification. iii. Attach documentation for the sites implemented by the respective engineers. <i>The engineers proposed here MUST be involved in the implementation of the project if awarded.</i>	
3.	Staff competence in datacenter precision air conditioning	The bidder MUST have at least two (2) engineers trained and experienced in data center precision air conditioning. For each of the engineers, attach the following: - i. Attach CVs ii. Attach copies of certificates showing training in air conditioning	

Mandatory Technical Documentation Requirements			
No.	Item/Specification	Requirement	Bidder's Response and page number reference.
		iii. Attach documentation for the sites implemented by the respective engineers. <i>The engineers proposed here MUST be involved in the implementation of the project if awarded.</i>	
4.	Staff competence in structured cabling and networking	The bidder MUST have at least two (2) engineers trained and experienced in structured cabling and networking. For each of the engineers, attach the following: - i. Attach CVs ii. Attach copies of certificates showing training in networking iii. Attach documentation for the sites implemented by the respective engineers. <i>The engineers proposed here MUST be involved in the implementation of the project if awarded.</i>	
5.	Staff competence in data center fire detection and suppression system	The bidder MUST have at least two (2) engineers trained and experienced in data center fire detection and suppression. For each of the engineers, attach the following: - i. Attach CVs ii. Attach copies of certificates showing training in data center fire detection and suppression iii. Attach documentation for the sites implemented by the respective engineers. <i>The engineers proposed here MUST be involved in the implementation of the project if awarded.</i>	
6.	Staff competence in PABX, CCTV and WLAN	The bidder MUST have at an engineer trained and experienced in each of the following: PABX, CCTV and WLAN. For each of the engineers, attach the following: - i. Attach CVs ii. Attach copies of certificates showing training in PABX, CCTV and WLAN iii. Attach documentation for the sites implemented by the respective engineers. <i>The engineers proposed here MUST be involved in the implementation of the project if awarded.</i>	
7.	Staff competence in project management.	The bidder MUST have at an engineer trained and experienced in project management. Attach the following: - i. Attach CVs ii. Attach copies of certificates showing training in project management. iii. Attach documentation for the sites implemented by the respective engineers. <i>The engineers proposed here MUST be involved in the implementation of the project if awarded</i>	
8.	Electrical/mechanical construction competence	The bidder should have at least National Construction Authority (NCA) 2 category under Electrical/Mechanical. Documentation to be attached.	
9.	Builder's works competence	The bidder should have at least National Construction Authority (NCA) 4 category under Builders Works/Contractors. Documentation to be attached.	

Mandatory Technical Documentation Requirements			
No.	Item/Specification	Requirement	Bidder's Response and page number reference.
10.	EPRA licensing for the bidder	The bidder must be an Electrical Contractor licensed by the EPRA, at least class B. Documentation to be attached.	
11.	EPRA licensing for bidder's technicians	The bidder must have at least two (2) electrical technicians licensed by the EPRA. Documentation to be attached.	
12.	Competence and certification for Occupational Safety and Health	The bidder MUST have certification for Occupational Safety and Health. Documentation to be attached.	
13.	Site Survey	The bidder MUST attend a Prebid meeting and carry out a survey for the proposed data center and network infrastructure sites. The Prebid and site survey form MUST be duly signed and stamped by a KCAA staff.	
14.	Technical design diagram for the data center	The bidder shall provide a technical design diagram for the proposed data center. The diagram should depict the bidder's understanding of the data center requirements. The diagram MUST have the following attributes: - i. Indicate the data center walls, doors, windows and partitions for the monitoring, equipment and utility rooms ii. Indicate the layouts and placements of server racks, UPSs, battery banks, air conditioners, power boards, AVR, power suppression cannisters iii. All units should be in millimetres and clearly labelled iv. The diagram should be in full colour v. All components MUST be drawn to scale	

LOT 1 WILL FURTHER CONSIST OF THE FOLLOWING SECTIONS;-

- 1. Section 1 – Remodeling/Modernization of the data center**
- 2. Section 2 – Installation of Clean Power for EASA ICT laboratory**
- 3. Section 3: Migration, Management of live systems/services, Project Management, Keys Management, Training, SLA services and Other Hardware Requirements**

SECTION 1: MANDATORY TECHNICAL REQUIREMENTS AND RESPONSIVENESS CHECKLIST FOR REMODELING AND MODERNIZATION OF THE DATA CENTER

All bidders must meet the following mandatory technical specifications to be considered as responsive in order to proceed to the next stage of evaluation. The bidder **MUST** provide detailed explanations of how they shall fully meet the required technical requirement. Bidders should **NOT** write complied or just tick (✓) against a requirement, a full detailed explanation is required. **ALL THE REQUIREMENTS ARE MANDATORY.**

i. Design of Space Utilization

Design of space utilization.			
No.	Item	Specifications Required	Bidder’s Response and page number reference
1.	Detailed layout architectural drawings for the entire data center	Detailed architectural drawings showing how the space will be generally utilized. The drawings should: - <ul style="list-style-type: none"> a. Indicate the placement of the server racks and the air conditioners b. Illustrate the total area of the data center equipment, utility and monitoring rooms c. Illustrate the containment area d. Show the placement and dimensions of the three (3) doors and the window for the monitoring room e. Indicate the hot and cold isles f. Show the placement of AVR, power boards, UPSs, battery banks and fire suppression g. All units should be in millimetres and clearly labelled h. The diagram should be in full colour i. All components MUST be to scale 	
All Requirements are Mandatory			

ii. Expansion of the Data center Area

Figure one (1) below depicting current data center area is a guide to bidders. Bidders **MUST** undertake site survey and design their own diagrams for the expansion of the data center area. The diagram also indicates the proposed expansion area next to the data center which shall be utilized for the expansion of the data center.

Figure two (2) below depicting the proposed data center area inclusive of equipment, utility and monitoring rooms is a guide to bidders. Bidders **MUST** undertake site survey and design their own diagrams for the expansion of the data center area.

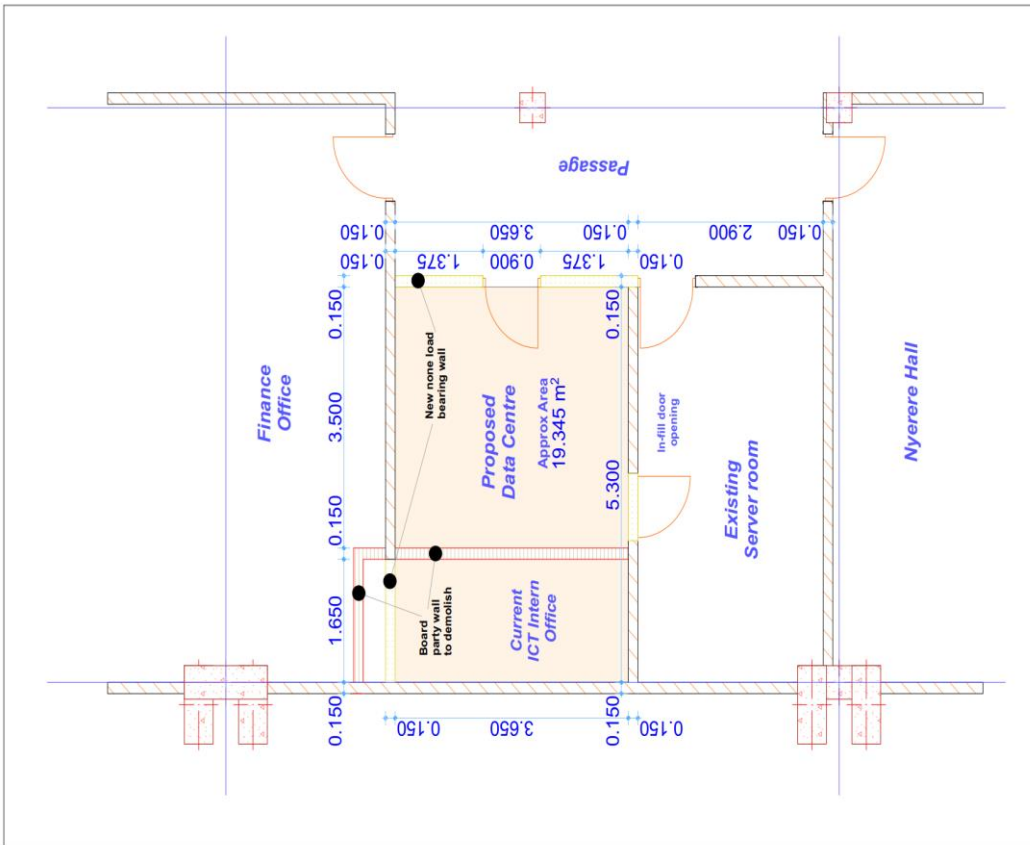


Figure 1: Current data center area including the expansion space

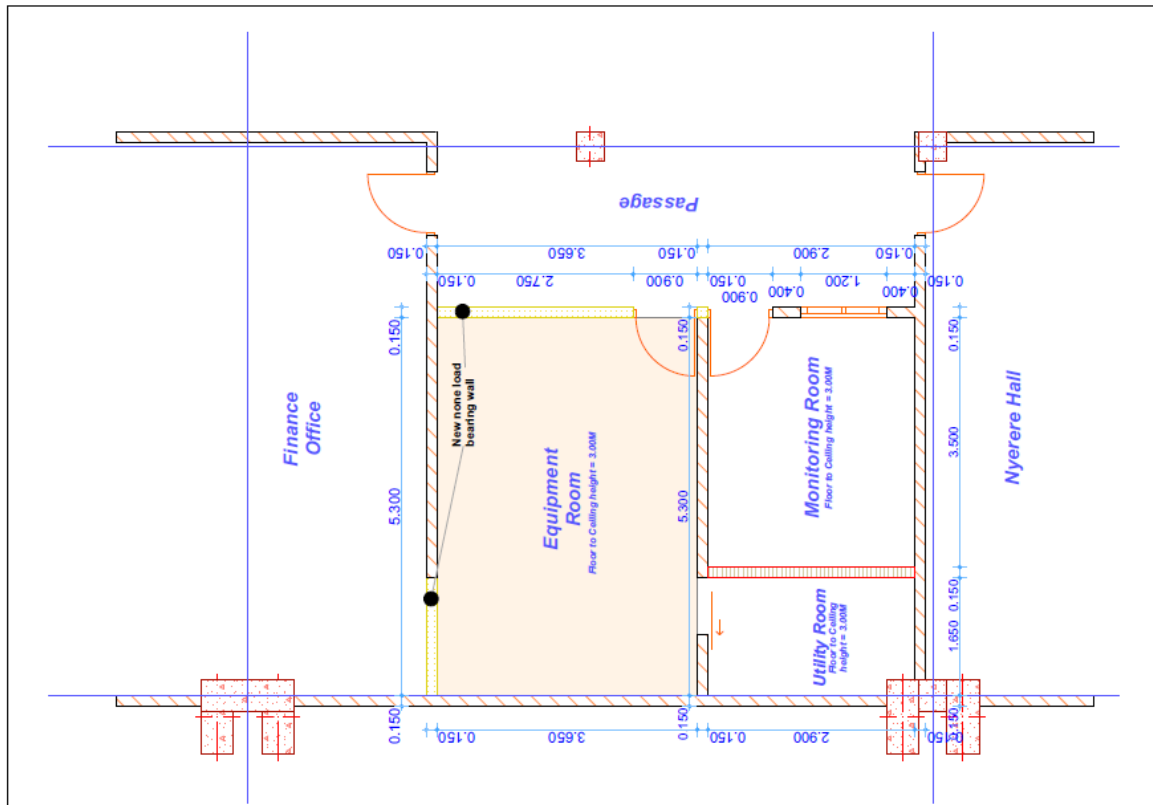


Figure 2: A sketch of the proposed data center indicating the equipment, utility and monitoring rooms

Expansion of data center area			
No.	Item	Specifications Required	Bidder's Response and page number reference
1.	Equipment room	a. The length should be approximately 5,300mm b. The width should be approximately 3,650mm c. A data center door to be created in the width next to the passage	
2.	Utility room	a. The length should be approximately 1,650mm b. The width should be approximately 2,900mm c. A sliding data center door to be created between the equipment room and the utility room d. Creating the data center to utility room door requires cutting through a concrete masonry wall	
3.	Monitoring room	a. The length should be approximately 3,500mm b. The width should be approximately 2,900mm c. A standard door to be created next to the passage d. Creating the door to the monitoring room requires cutting through a concrete masonry wall e. A window to be created next to the passage f. Creating the window for the monitoring room requires cutting through a concrete masonry wall	
4.	Height	The height of the proposed data center should be the same as the floor height i.e. from the floor to the concrete slab – approximately 3,500 mm.	
5.	Site Survey	A Site Survey Form duly signed and stamped to be attached. All dimensions should be confirmed by the bidders during the site survey.	
All Requirements are Mandatory			

iii. Partitioning

The partitioning should be undertaken as per the proposed diagram for the data center design. Any existing partition forming any part of the walls for the proposed data center should be removed and replaced with the required data center partitioning material. The proposed partition medium is MGO Board and in addition to the existing masonry walls. The supporting framework should be aesthetically pleasing. The partitioning framework should be physically strong and maintain the level of fire-rating required for a data center.

Partitioning			
No.	Item	Specifications Required	Bidder's Response and page number reference
1.	Area to be partitioned	The area to be partitioned includes the equipment, utility and monitoring rooms	
2.	Height to be partitioned	The height of the partitioned area should extend from the floor to the concrete slab	
3.	Partitioning medium	MGO Board wall lining including screwing to studwork and taping joints in readiness for skimming	
4.	Partitioning sizes	a. MGO board from the floor up to a height of 1000 millimetres b. MGO board from a height of approximately 2500 millimetres to the concrete slab	
5.	Fire rating	The material used should be fire rated at least 2 hours	
6.	Girth	Provide a gypsum/MGO board surfaces girth of at least 100mm but not exceeding 200mm	
7.	Interior design	Interior design should be done to ensure that the external partitions of the data center are stylish and aesthetically pleasing for a modern office environment	
8.	Proposed interior designs	The proposed designs for the exterior of the data center partition to be provided (photos)	
9.	Paint works	a. The current walls to be repainted b. Prepare and apply one undercoat and three finishing coats silk vinyl paint on the walls c. Colour of paint: Soft white or ivory.	
All Requirements are Mandatory			

iv. Raised Floor

Remove the current ceramic tiles and prepare the floor to receive Epoxy Industrial floor paint. Prepare surface, prime and apply 1.0 mm Jotafloor or any other equal and approved heavy duty epoxy resin floor finish to screed surfaces strictly in accordance to manufacturer's written instructions. The raised floor is required to provide a means as to how to pass the services as per site requirements. The raised floor system should be fire rated as per EN 13501-01 standards. The raised floor should be “Bergvik Raised Floor Systems”.

Raised floor			
No.	Item	Specifications Required	Bidder's Response and page number reference
1.	Floor preparation	<ul style="list-style-type: none"> a. Remove the current ceramic tiles and prepare the floor to receive Epoxy Industrial floor paint. b. Prepare surface, prime and apply 1.0mm Jotafloor or any other equal and approved heavy duty epoxy resin floor finish to screed surfaces strictly in accordance to manufacturer's written instructions 	
2.	Height of the raised floor	300 mm.	
3.	Tiles	<ul style="list-style-type: none"> a. The replacement tiles MUST be Fireproof and anti-static. b. They should be the same colour as the raised floor. c. They should have HPL or equivalent. d. Size: 600 mm by 600 mm. 	
4.	Raised floor standards	The raised floor system should be fire rated as per EN 13501-01 standards	
5.	Lamination	Direct laminate to provide higher wear resistant as well as easier to clean and maintain.	
6.	Panel core	Panel Core should be at least 35mm and not more than 40mm in depth.	
7.	Electrical resistance	Electrical resistance of greater than 50kΩ	
8.	Load	<ul style="list-style-type: none"> a. Concentrated load, temporary deflection of 2.8 mm at 3kN b. At least a 3kN limit at a concentrated load, with a permanent. Deflection of 0.2 mm 	
9.	Panel properties	<ul style="list-style-type: none"> a. Fireproof b. Waterproof c. Antistatic 	
10.	Floor size	The entire floor of the data center should be raised i.e. both the equipment and utility rooms	
11.	Floor panel lifters	Provide at least two (2) heavy duty suction floor panel lifters	
12.	Diagram	<p>The bidders should provide complete diagrams for the raised floor for the proposed data center (both equipment and utility Room). The drawings should:-</p> <ul style="list-style-type: none"> a. Be coloured b. Have all dimensions to scale c. All units should be in millimetres d. Depict the locations of all the pedestals e. Depict the panels and panel sizes 	
13.	Rodent Repellant	<p>This model is a standalone system (one device) to protect the entire data center. The device should have the following specifications: -</p> <ul style="list-style-type: none"> a. Operating frequency: Above 20 KHz (variable) b. Sound Output: 80 dB to 110 dB (at 1mtr) c. Power Output: 250 mW per d. Power Consumption: 9 Watts e. Power Supply: 230 V AC 50 Hz f. Dimensions: 110mm X 135mm X 200mm g. Weight: 850 grams h. Mounting: Wall 	
All Requirements are Mandatory			

v. Utility Room Design

Establish a Utility Room by installing an Integrated Battery Rack (IBR) system.

The required IBR system should be a comprehensive battery enclosure which includes all battery connectivity and cabling. All electrical connections should be made at the factory and shipped fully assembled. Batteries should be easily added and connected on site. The IBR system should be easy to install, manage and maintain.

Utility room design			
No.	Item	Specifications Required	Bidder's Response and page number reference.
1.	Quantity of battery racks	The bidder should determine the number of racks based on the number of batteries and their respective dimensions. This information should be obtained during the site survey/visit.	
2.	Design and built	a. The rack should be crafted of powder coated aluminum, resulting in a clean black appearance b. Space saving design with small foot-print c. Front and side guide rails secure batteries	
3.	Dimensions	a. Height: approximately 2000mm. b. Width: approximately 1200mm. c. Depth: approximately 600mm. d. No. of shelves: At least five (5). e. Shelf height: Approximately 400mm. f. The bidder should determine the best rack dimensions based on the battery sizes and quantity. This information should be obtained during the site survey/visit.	
4.	Protection	Overcurrent protection on each battery string for added safety and flexibility. Protective terminal covers.	
5.	Rack ventilation	Well-ventilated for increased battery safety and longevity.	
6.	Casters	a. Phenolic casters allow mobility and will not mark floors. b. Locking floor brake prevents unwanted movement of the unit.	
7.	Connecting power cables	a. Cables to be provided to connect the batteries to the power board in the Utility Room b. All cables to be managed and trays to be provided as appropriate c. Cabling to be done neatly below the raised floor	
8.	Diagram	The bidders should provide complete diagrams for the AVR, battery racks, batteries and power distribution boards. The drawings should: - a. Be coloured b. Have all dimensions to scale. c. All units should be in millimetres. d. Depict the locations of all the battery racks e. Illustrate the cable trays and cables paths from the batteries in the racks to the power distribution boards f. Location of the AVR and the power distribution boards	
9.	Datasheet	Attach datasheets with photos for the proposed battery racks	
10.	Site Survey	Site survey of the Utility Room is mandatory.	
11.	Door	A sliding door to be created between the equipment room and the utility room	
All Requirements are Mandatory			



vi. Monitoring Room Design

Establish a monitoring room that should be occupied by at least three (3) ICT officers.

Monitoring Room Design			
No.	Item	Specifications Required	Bidder's Response and page number reference
1.	Monitoring room dimensions	<ul style="list-style-type: none">a. The length should be approximately 3,500mmb. The width should be approximately 2,900mmc. A standard door to be created next to the passaged. Creating the door to the monitoring room requires cutting through a concrete masonry walle. A window (1000mm height by 1500mm width) to be created next to the passagef. Creating the window for the monitoring room requires cutting through a concrete masonry wall	
2.	Floor and ceiling	<ul style="list-style-type: none">a. No raised floor required for this roomb. 600mm by 600mm high quality tiles to be installed. These tiles should have the same finishing as the raised floor tiles for the equipment and utility roomsc. The ceiling should be the same as the other data center ceilings	
3.	Power and networking	The room should have at least six (6) dual data and USB power ports. Four (4) power ports to draw clean power from the data center while two (2) shall have raw power	
4.	Diagram	The bidders should provide complete diagrams for the monitoring room indicating the room layout, monitors, working tables, chairs, wall mounted screen, data and power ports. The drawings should: - <ul style="list-style-type: none">a. Be colouredb. Have all dimensions to scalec. All units should be in millimetres	
All Requirements are Mandatory			

vii. Monitoring Room Furniture and Equipment

The monitoring room should have four (4) computer chairs, two (2) computer tables with drawers and cable trays, a wall mounted smart screen and two (2) IP phones.

Monitoring room furniture and equipment			
A. Four (4) computer chairs			
	Item Specifications	Picture	Bidder's Response and page number reference
1.	Quantity – Four (4)		
2.	Functioning high back swivel fixed armrest adjustable lumbar back support, mesh back and leather seat		
3.	Orthopaedic Chair		
4.	Mesh Back		
5.	Black Fabric Seat		
6.	Adjustable Headrest		
7.	Adjustable Lumbar Support		
8.	Adjustable 4D arms		
9.	Seat Slider		
10.	Height Adjustable		
11.	Tilt and locking,		
12.	5 Star Chrome base and castors		
B. Two (2) Computer tables with lockable drawers			
1.	Solid wood construction		
2.	White solid core laminate for the tables		
3.	All areas MUST be scratch and chip resistant		
4.	Black solid core laminate for the drawers		
5.	Work surface area should be 2000mm length by 700m width		
6.	Work surface should be 700mm height		
7.	The drawers MUST be lockable with three (3) sets of keys		
8.	MUST have cable trays for power and network		

B. Overhead Monitor for Observation of Data center Metrics			
1.	Quantity	One (1)	
2.	Screen Size	At least 62 Inch QLED Smart Screen	
3.	Make and Model	<ul style="list-style-type: none"> ▪ Samsung or equivalent. ▪ Make and Model to be clearly specified ▪ Product datasheets to be provided 	
4.	Layout	Flat	
5.	Resolution	ULTRA HD(4K)	
6.	Backlight	QLED	
7.	LAN Support	Built-In	
8.	Wi-Fi Support	Built-In	
9.	Other Supported Interface	<ul style="list-style-type: none"> ▪ Mira Cast ▪ Mobile HD Link ▪ Wi-Di ▪ Wi-Fi Direct 	
10.	Ports	<ul style="list-style-type: none"> ▪ HDMI - 3 ▪ USB – 3 ▪ Component and AV 	
11.	OS	NetCast 4.5	
12.	Processor	LM 14	
13.	Other Requirements	<ul style="list-style-type: none"> ▪ Remote Control ▪ Built-in micropixel control ▪ Resolution Upscaler 	
14.	Multi-display mode	<ul style="list-style-type: none"> ▪ The smart screens should be mounted next to each other. ▪ They should be configured such that they are displaying the same content. This configuration should be flexible to remove easily on need basis. 	
15.	Service Requirements	<ul style="list-style-type: none"> ▪ Installation and mounting of the Screens ▪ The mountings and all cabling should be in-wall trunked and professionally installed 	
16.	Warranty	One (1) year warranty	
All Requirements are Mandatory			

viii. Ceiling

EASA intends to install a strong ceiling system that will not only hold the lighting fixtures, but one that can carry weight of services like power and data connections.

Ceiling			
No.	Item	Specifications Required	Bidder's Response and page number reference
1.	Ceiling size	a. The ceiling should cover the entire data center i.e., the equipment, utility and monitoring rooms. b. The ceiling height should be 200mm from the concrete slab.	
2.	Colour	White.	
3.	System data	a. Extrusion Material: Extruded aluminum. b. Extrusion Alloy: 6106. c. Weight: 1 kg per lineal meter. d. Connector material: Zinc aluminum alloy.	
4.	System weight	600x600 mm grid configuration = 5.0 kg/m ² .	
5.	Load ratings	a. 53 kg at the center of the longer span. b. 79 kg at 305 mm from a supported connector. c. 285 kg minimum directly under a supported grid connector.	
6.	Distance measuring tools	Two (2) handheld distance measuring tool – HILTI PD5.	
7.	Diagram	The bidders should provide complete diagrams for the ceiling design for the proposed data center. This should include the equipment, utility and monitoring rooms. The drawings should: - a. Be in colour. b. Have all dimensions to scale. c. All units should be in millimetres. d. Depict the locations of all the connectors. e. Depict the panels and panel sizes.	
All Requirements are Mandatory			

ix. Lighting System

New LED lights to be installed in the data center. All lighting should support emergency purposes i.e. emergency lighting. The lights in the data center should be motion sensor controlled.

Lighting system			
No.	Item	Specifications Required	Bidder's Response and page number reference
1.	Area to be lit	The entire data center i.e., the equipment, utility and monitoring rooms	
2.	Colour	White, both the light and the emission	
3.	Technology	LED	
4.	Description of the lights	<ul style="list-style-type: none"> a. LED Ceiling Panel Lights b. Measuring approximately 600 mm x 600 mm i.e. to fit into a ceiling Panel. c. The frame should be white chrome or equivalent. d. Lumens delivered: Approximately 3,125LM. e. Watts per light: 25. 	
5.	Number of Main Lights	<ul style="list-style-type: none"> a. Equipment Room – 6. b. Utility Room – 2. c. Monitoring Room – 2. 	
6.	Number of Emergency Lights	<ul style="list-style-type: none"> a. Equipment Room – 2. b. Utility Room – 1. c. Control Room – 1. 	
7.	Light Switches	<ul style="list-style-type: none"> a. Three two-way switches to be provided. b. Four (4) motion sensors to be provided to turn-on the lights when there's movement and vice-versa. Two (2) in the equipment room and one (1) each for the monitoring and utility rooms. 	
8.	Diagram	<p>The bidders should provide complete diagrams for lighting and associated connectivity for the proposed data center (equipment, utility and monitoring rooms). The drawings should: -</p> <ul style="list-style-type: none"> a. Be coloured. b. Have all dimensions to scale. c. All units should be in millimetres. d. Depict the locations of all the lights, switches and connectors. e. Depict the location of the motion sensors. 	
All Requirements are Mandatory			

x. Data center Door – Equipment Room

The main entrance door should be strong to resist physical force to break-in. It should be fire resistant and comprising of door leaf with mineral fiber or gypsum plaster board core lined with galvanized, primed and painted sheet metal facing 1.5mm thick on both sides.

Datacenter door – Equipment Room			
No.	Item	Specifications Required	Bidder's Response and page number reference
1.	Dimensions	Approximate dimensions: width – 1000mm x height 2100mm.	
2.	Description	The fire-resistant door set comprising door leaf with mineral fiber or gypsum plaster board core lined with galvanized, primed and painted sheet metal facing 1.5mm thick both sides, hinge plate, hinges, 2.0mm thick galvanized, primed and painted corner covering frames, fire proofing strips, all to DIN 4102, DIN 52210, DIN 18095.	
3.	Locking Mechanism	a. 2 point vertical locking device. b. Provide physical lock with three (3) sets of keys. c. The door should open outwards. d. The door will have magnetic locks controlled by a biometric based access control system.	
4.	Diagram	Attach a coloured photo of the proposed door.	
5.	Accessories	The following accessories should be supplied with the door: - a. Overhead door closer: cat. No.8823.	
All Requirements are Mandatory			

xi. Connecting Door – Connecting the Utility Room and the Equipment Room

The connecting door should be a sliding door strong to resist physical force to break-in. The door should be made of tough transparent fire-resistant glass.

Connecting door – Connecting the utility room and the equipment room			
No.	Item	Specifications Required	Bidder's Response and page number reference
1.	Dimensions	Approximate dimensions: width – 1000mm x height 2100mm.	
2.	Description	A sliding door made of tough fire-rated glass panels. The panels should be transparent.	
3.	Locking mechanism	a. The door opens and closes automatically b. It should also be lockable with keys	
4.	Diagram	Attach a coloured photo of the proposed door	
5.	Accessories	Any other required accessories.	
All Requirements are Mandatory			

xii. Monitoring Room Door and Window

The monitoring room door should be strong to resist physical force to break-in. It should be comprising of door leaf with mineral fiber or gypsum plaster board core lined with galvanized, primed and painted sheet metal facing 1.5mm thick on both sides.

Monitoring room door and window			
No.	Item	Specifications Required	Bidder's Response and page number reference
1.	Dimensions	Approximate dimensions: width – 1000mm x height 2100mm.	
2.	Door Description	The standard door set comprising door leaf with mineral fiber or gypsum plaster board core lined with galvanized, primed and painted sheet metal facing 1.5mm thick both sides, hinge plate, hinges, 2.0mm thick galvanized, primed and painted corner covering frames, fire proofing strips, all to DIN 4102, DIN 52210, DIN 18095.	
3.	Window description	<ul style="list-style-type: none"> a. The window should measure 1000mm height by 1500mm width. b. Overall frame depth 4-1/2". New construction frame with continuous integral fin, or replacement frame with double-wall flush flange. c. Frame members are mitered, and heat fused to provide a fully welded corner assembly. d. Interior and exterior frame surfaces extruded, rigid uPVC. e. The opening mechanism of the window is sliding with 2-panels. f. The window should have toughened one-way see glass. g. Vent panel is fully operable for ventilation. h. All fasteners are a corrosion-resistant material compatible with PVC. i. Rollers are adjustable, permanently-sealed, electroplated steel with organic coated ball-bearing rollers. j. Chrome white in colour. 	
4.	Window locking mechanism	2-point vertical locking device.	
5.	Window security	<ul style="list-style-type: none"> a. The window should have a metal grill in the inside. b. The grill colour should be white. 	
6.	Door locking mechanism	<ul style="list-style-type: none"> a. 2-point vertical locking device. b. Provide physical lock with three (3) sets of keys. c. The door should open outwards. d. The door will have magnetic locks controlled by a biometric based access control system. 	
7.	Diagram	Attach a coloured photo of the proposed door and window.	
8.	Accessories	The following accessories should be supplied with the door: - Overhead door closer: cat. No.8823.	
All Requirements are Mandatory			

xiii. Server Racks

Five (5) Intelligent Server Racks are required. All racks to have intelligent PDUs with enough capacity to dual power all devices (estimated 20 devices) within the rack. Each rack should have an IP based KVM switch and a monitor to serve all console and keyboard functions for devices within the rack.

Server racks			
No.	Item	Specifications Required	Bidder's Response and page number reference
1.	Quantity	Five (5) Server Racks/Cabinets, each with 42U 1200 mm Deep Dynamic Rack.	
2.	Make and Model	a. APC NetShelter or Equivalent. b. Coloured product datasheets to be attached.	
3.	Design and Build	a. Heavy steel construction with all sides perforated. b. With castors and breaking latches. c. Dimensions: 1200mm depth by 600mm width by 2000 mm height.	
4.	Blanking Panels	2U Blanking panels to be provided for all the spaces that will remain open after deployment of servers and equipment.	
5.	Monitor	a. The monitor MUST be the same make and model as the Server Rack. b. At least 21-Inch high definition high resolution console. c. The screen should be touch enabled. d. Should have a keyboard and touch pad for controlling rack servers using the KVM Switch. e. Tool-less installation. f. Sliding rail kits should be supplied and installed. g. 1U.	
6.	Each Rack to be fitted with POUs with the following Specifications	a. High temperature rating up to 60oC. b. Input Power 32A. c. Max. Capacity; above 22kW. d. Outlet Options NEMA 5-20; IEC 320 C13 / C19. e. Outlet Ports; at least 24 ports. f. Modular hot swappable controller card. g. Bistable/normally closed relays. h. Metering of key electrical parameters with +/-1% accuracy. i. Support of remote authentication protocols (LDAP, Active Directory, Radius, Kerberos, TACACS+) and encryption. j. Consolidate Rack Level Power and environmental Monitoring. k. POU to have capability of Data Analysis and Trend reporting.	
7.	KVM Switch	a. MUST be the same make and model as the Server Racks. b. Switch Technology: Digital KVM over IP. c. Form Factor: 1U. d. Local Users: 2. e. Remote Users: 2. f. Device Ports: At least 16. g. Sliding rail kits should be supplied and installed.	
8.	Frame, doors and construction	a. Six side wall compartments. b. Split rear doors. c. Standard front and side stabilizers.	
9.	Rack Dimensions	a. Height (In./mm): 78.74/2000. b. Width (In./mm): 23.82/605. c. Depth (In./mm): 47.24/1200. d. Should be Ship Loadable.	
10.	Cable Exits	a. Side cable trays. b. Top cable and bottom cable exits.	
11.	Services and other accessories	a. The Servers should be mounted in the Server racks. b. PDUs should be mounted in each Server Rack. The power should be drawn from a UPS via the PDUs input cords. c. The monitors and the KVM switches should be mounted and tested. d. The rack should have optimized zero U mounting for simplified cable management, reduced installation time and increased accessibility.	
12.	Warranty	1-year customer replaceable unit and on-site limited warranty, next business day 9x5, service upgrades available.	
All Requirements are Mandatory			

xiv. Power Configuration and Management

It is required that the power in the datacenter is well managed to ensure that all the active devices are running throughout. The load will be well balanced and all the cabling well done.

Power configuration and management			
No.	Item	Specifications Required	Bidder's Response and page number reference
1.	Power Distribution Board (PDB)	High end (Havels or Equivalent) PDB in the utility room.	
2.	Cabling	a. Standard power cabling to the Distribution Board. b. The estimated distance is thirty (30) metres. Bidders should affirm this length from a mandatory site survey.	
3.	Load Balancing	Ensure the Power is distributed well in the data center to achieve load balancing.	
4.	Diagram	Attach a diagram of the proposed power distribution.	
5.	Terminals and Circuit Breakers	Supply all the power terminals and circuit breakers as per the power ratings.	
6.	Connections	Ensure the power is connected to the AVR through the changeover units with bypass option.	
7.	Labelling	Labelling of all the power units must be done.	
8.	Wall Sockets	a. Provision of eight (8) double Crabtree or equivalent sockets four at the back and the other four in front. b. Four of the dual sockets should have clean power, two at the back and the other two at the front.	
9.	Powering Access Switches	All floor access switches should be powered from each load group.	
10.	Accessories	Supply all the accessories required for the works.	
All Requirements are Mandatory			

xv. UPSs

The Data center will require two (2) 80 KVA UPSs which will have a runtime of at least sixty (60) minutes on full load. The UPS will be connected in parallel and the load balanced. The detailed specifications are as below:

UPS			
No.	Item	Specifications Required	Bidder's Response and page number reference
1.	Quantity	Two (2) Industrial type UPSs (Triplite or equivalent), each 80KVA.	
2.	Make/Model	The make and model should be clearly indicated.	
3.	Manufacturer's Authorization	Manufacturer's authorization MUST be provided.	
4.	Output	a. Output kVA Capacity (kVA): 80. b. Output kW Capacity (kW): at least 80. c. Nominal Output Voltage(s) Supported: 220/380V 3-PH; 230/400V 3-PH; 240/415V 3-PH.	
5.	Input	a. Nominal input Voltage(s) Supported - 220/380V 3-PH; 230/400V 3-PH; 240/415V 3-PH. b. Hardwire connection type. c. Input phase – Three phase.	
6.	LEDs, LCDs and alarm.	a. LED Indicators - LEDs indicate line power, online mode, economy/bypass mode, on-battery, charger and AC output status. b. Front panel LCD Display - Selectable LCD display with scroll and selection buttons. c. Audible alarm with cancel operation.	
7.	Switches	ON / ENTER BUTTON: turns the UPS on and confirms a selection from the settings menu; OFF / ESC BUTTON: turns off the UPS and returns to the previous item in the settings menu; TEST / UP BUTTON: initiates UPS self-test operation and advances to the next item in the settings menu; MUTE / DOWN BUTTON: silences the audible alarm and advances to the previous item in the settings menu; Press TEST/UP & MUTE/DOWN buttons simultaneously for 1 second to enter or exit the settings menu.	
8.	Form Factor	a. Rack mountable is preferred. b. Mounting accessories.	
9.	High Availability UPS Features	Automatic inverter bypass; Manual bypass switch; Detachable hot-swap PDU; Hot swappable UPS power module; Hot swappable batteries.	
10.	Battery type	a. Valve Regulated Lead Acid (VRLA)—Maintenance-free, sealed, leak-proof. b. Should have an option for external battery pack.	
11.	Full Load Runtime (min.)	60 min (27kW).	
12.	Half Load Runtime (min.)	120 min. (13.5kW).	
13.	Expandable Battery Runtime	Supports extended runtime optional external battery pack.	
14.	External Battery Pack Compatibility	The battery pack should be able to support the number of batteries to achieve the required runtime.	
15.	Interface port	USB HID Port/Serial/Optional LAN Card.	

UPS			
No.	Item	Specifications Required	Bidder's Response and page number reference
16.	Smart Management	a. UPS Manager Software should be included. b. MUST be able to be managed through the network via a browser.	
17.	Efficiency	95% minimum at full rated load—normal operation, not during battery recharge.	
18.	Operating temperature	0°C (32°F) to +40°C (104°F).	
19.	Grouping/Stacking	a. The UPS should be stacked into two load groups of 1 or more UPSs each. b. Each load group should be able to provide 80KVA or more and should be able to run the data center independently. c. These groupings should be named into A and B.	
20.	Configuration and outputs.	a. Power from each UPS load group should be fed into different PDUs in the Server Racks to attain high availability (no single point of failure). b. The connections should be done by utilizing the raised floor. c. Each server rack PDU should receive power from each UPS load group.	
21.	Load Balancing	The configuration of the UPS load groups should be such that there is automatic load balancing.	
22.	Scalability	The configuration should be done such that with more equipment, growth can be accommodated.	
23.	Racking	a. The UPS battery banks should be installed in the utility room. b. The racking should be such that it leaves room for future expansion.	
24.	Services and other Accessories	a. The bidder should provide all cables with right ratings (as per applicable electrical standards) and other accessories required to install, configure, test and operationalize the UPSs. b. Mounting the UPSs into the Racks, connecting them with Mains electricity supply and powering the Rack PDUs.	
9.	Diagram	The bidders should provide complete diagrams for the UPSs and battery banks. The drawings should: - a. Indicate the placement of the UPSs in the data center b. Indicate the placement of the battery banks in the utility room c. Indicate the load groups A and B and the respective distribution to all the racks d. The power cabling for each load group should be coloured differently e. The diagram should be coloured f. Have all dimensions to scale g. All units should be in millimetres	
25.	Warranty	3-year customer replaceable unit and on-site limited warranty, next business day 9x5, service upgrades available	
All Requirements are Mandatory			

xvi. AVR

Supply, installation, configuration and testing of an Automatic Voltage Regulator (AVR). An AVR is required to ensure that the power feeding the UPSs is automatically regulated and stabilized to protect the UPSs and other vital equipment within the Data center. The AVR required should be at least 100KVA and the specifications are as below: -

AVR			
No.	Item	Specifications Required	Bidder's Response and page number reference
1.	Quantity	One (1)	
2.	Make and Model Number	Must be indicated	
3.	AVR Capacity	100KVA	
4.	Manufacturer's Authorization	The bidder should provide a manufacturer's authorization from the original equipment manufacturer	
5.	Power	100kVA/Three Phase Voltage Correction: Input: 400V \pm 20%; Output: 400V \pm 0.5%.	
6.	Specific Equipment to be Supported	The key equipment expected to be supported by this AVR are as follows: - <ul style="list-style-type: none"> ▪ Two (2) 100KVA 3-phase UPSs. ▪ Two (2) industrial air conditioners. ▪ Other equipment and devices. 	
7.	Product Datasheets	The bidders shall provide detailed and colored product datasheets with photos of the equipment.	
8.	Design Diagrams	The bidders shall provide detailed colored design drawings of how the AVR will be interconnected from the Mains to the power distribution boards in the utility room to the equipment. It should also show the position of the AVR in the Utility room. This diagram should be drawn to scale depicting all the dimensions.	
9.	Displays	Modern state of the art LED display to indicate the state of the input at all times and LEDs to indicate the output voltage going to the load. The loading on the AVR is indicated by a further LEDs.	
10.	Connectivity Cables	All required power cables (East African Cables/Met sec or equivalent) to be provided. This will be precisely determined during the site survey.	
11.	Cable Utilization	For providing connectivity between the AVR to the power board. For wiring of the Stabilizer and interconnection cables between the stabilizer and mains. The length of the cable to be determined by a MANDATORY site survey.	
12.	Manual Change Over	200 AMPS Manual Change Over, Havel's or equivalent.	
13.	Powering the AVR	250 AMPS MCCB, Schneider or equivalent.	
14.	Accessories	All connecting accessories required to fully install, connect and operationalize the AVR should be provided.	
15.	Works and Labour	All labour and works and equipment required like folk lifts, manual labour etc should be provided by the bidder.	
16.	Remote Monitoring	The equipment should have the capability to be monitored remotely.	
17.	Technical Documentation	The bidder shall provide technical documentation of the site installation as well as original manufacturer's documentation.	
18.	Warranty	Three (3) years warranty is expected. This warranty should cover spares and next business day onsite ProSupport.	
All Requirements are Mandatory			

xvii. Precision Air Conditioning

Supply, installation, testing and commissioning of DX Type air-conditioning Units. They should be designed specifically for high sensible heat ratio with variable cooling technique to match the low latent loads of systems to be installed in the integrated cabinet for effective and uniform distribution of cooling. We would like to achieve a Cold/Hot containment and the supplied Cooling Unit should be well suited for this application. To achieve this, we require a CyberRow Cooling. This innovative technology is able to provide targeted cooling of racks. The air-conduction should be done in a horizontal direction with all the server racks positioned between the two (2) in-row type air-conditioners.

Precision air conditioning			
No.	Item	Specifications Required	Bidder's Response and page number reference
1.	Quantity	Two (2) In-Row air conditioners	
2.	Cooling Technology	CyberRow DX with horizontal air conduction.	
3.	Make and Model	a. STULZ CRS/CRL 251 AS/GS or Equivalent. b. Coloured product datasheets to be attached.	
4.	Cooling Capacity	At least 25.3 kW.	
5.	Dimensions	a. Height: 1950 mm. b. Depth: 1,175/1,375 mm. c. Width: 400 mm.	
6.	Refrigerant	All units equipped with direct expansion circuit are suitable for R410A refrigerant.	
7.	Cabinet and Frame	The unit shall be powder painted panels with ½” (or 10mm) insulation. A hinged control access panel opens to a second front panel which is a protection enclosure for high voltage components. The frame is painted with a powder coat finish to protect against corrosion. The unit is totally front and rear accessible including any component removal.	
8.	Air Flow	5,400 M ³ /Hr.	
9.	Management and Monitoring	a. There should be SNMP and HTTP/Web-management capability for enhanced communications and control of HPM systems. The cards make use of an Ethernet network (10/100Mbit) to monitor and control a wide range of operating parameters, alarms and notifications thanks to a standard web browser. b. The unit shall also include input volt-free contacts for simple remote monitoring of low and high priority alarms: high/low temperature, high/low refrigerant pressure, fan/control failure, compressor/control failure and others are available.	
10.	Fans Section	Units to be provided with two plug EC Direct Drive Fan, High efficiency, external rotor electronically commutated (EC) motor with integrated electronics, True soft start characteristics (inrush current lower than operating current), Backward curve, corrosion resistant aluminium fan wheel, Maintenance free design and construction.	
11.	Cooling Circuits – Direct Expansion	<ul style="list-style-type: none"> ▪ One refrigeration circuit, incorporating a high efficiency, fully hermetic variable capacity compressor with crankcase heater, safety valve, filter drier, moisture indicating sight glass, liquid line solenoid valve and an externally equalized expansion valve. Each compressor to be equipped with pre-set high and low pressure switches for protection against high condensing and low evaporating temperatures.	

Precision air conditioning			
No.	Item	Specifications Required	Bidder's Response and page number reference
12.	Air Filtration	The filter to be made of two deep pleated 4" filters rated MERV8 following ASHRAE 52.2 (45% by ASHRAE 52.1) or G4 following EN779, located within the cabinet, and accessible from the rear of the unit. Frame of the filter shall be made of galvanized steel.	
13.	Condenser	The condenser should be with fan speed controller designed & set for usages of R410A refrigerant. Condenser should be worked -20 degrees C to 46 degrees C ambient temperature.	
14.	Humidifier	The unit should be fitted with an canister type steam humidifier suitable for use with water of varying degrees of hardness, provided that the water is not treated or demineralized.	
15.	Containment area	<ul style="list-style-type: none"> a. A containment area to be created. b. The unutilized server racks space should be blacked using blanking panels. 	
16.	Services and other accessories	<ul style="list-style-type: none"> a. Site survey is mandatory. b. Bidders should establish from the site survey how the external units shall be installed. c. All the drilling necessary for placement of the external units should be factored in the cost. 	
17.	Diagrams	<p>Detailed design drawings showing how the precision cooling will be implemented. The drawings should: -</p> <ul style="list-style-type: none"> a. Be coloured. b. Have all dimensions to scale. c. Indicate the placement of the server racks and the air conditioners. d. Illustrate the total area of the data center equipment room. e. Illustrate the containment area. f. Indicate the air flow from the air conditioners to the hot and cold isles. g. Indicate the placement of the internal and external units. h. All units should be in millimetres. 	
18.	Warranty	3-year customer replaceable unit and on-site limited warranty, next business day 9x5, service upgrades available.	
All Requirements are Mandatory			

xviii. Fire Detection and Suppression

The specifications are as follows: -

No.	Requirement/Specification	Bidder's Response and page number reference.
Fire detection and suppression		
1.	<p>Fire Extinguishant control panel</p> <p>Extinguishant control panel</p> <p>Mains supply 230V AC, 50Hz +10% -15% (100 Watts maximum)</p> <p>Mains supply fuse F3A 250V TD 20mm. (Replace only with a fuses of the same type).</p> <p>Power supply rating I_{max} a 1.7A Power supply rating I_{max} b 5A</p> <p>Operating voltage 18 to 30 volts DC Battery charging circuit impedance R_{imax} 1.0 Minimum output current for correct operation I_{min} 10 milliamps Maximum ripple current 1.5+/- 0.3</p> <p>Volts Battery type Yuasa NP 7Ah or NP 12Ah, Flame retardant UL94:V-0 Battery charge voltage 27.6V DC nominal (temperature compensated) Battery charge current 1.25A max Maximum current draw from batteries 7 Amps</p> <p>Aux 24V output rating (CIE) 100 milliamps maximum load (fused at 500 milliamps) Aux 24V output rating (ECD) 100 milliamps maximum load (fused at 500 milliamps)</p> <p>Sounder output rating (CIE two outputs) 500 milliamps each (fused at 1A) Sounder output rating (ECD two outputs) 500 milliamps each (fused at 1A)</p> <p>Relay contacts 30V DC, 1 Amp maximum</p> <p>Detection loop current 400 milliamps maximum Extinguishant release outputs (2 per extinguishing module) 18 to 30V DC. Fused at 1 Amp</p> <p>Extinguishant release delay Adjustable 0 to 60 seconds (+/- 10%) Extinguishant release duration Adjustable 60 to 300 seconds</p> <p>ECD Monitored inputs normal threshold (Allowable EOL) 10K ohm to 2K ohm ECD Monitored inputs alarm threshold 2K ohms to 150 ohms +/- 5% ECD Monitored inputs Short circuit threshold 140 ohms to 0 ohms +/- 5% ECD</p> <p>Status unit/Ancillary board connection Two wire RS485 connection (EIA-485 specification) Status unit/Ancillary board power 24V (3 maximum per ECD module)</p> <p>Wire size: minimum 1.5²mm</p>	
2.	<p>Manual Fire Alarm Pull Stations</p> <p>UL/ FM Approved</p> <p>Switch contact ratings: gold-plated; rating 0.25 A @ 30 VAC or VDC</p> <p>Manual Fire Alarm Stations shall be non-code, with a key- or hex-operated reset lock in order that they may be tested, and so designed that after actual Emergency Operation, they cannot be restored to normal except by use of a key or hex</p> <p>An operated station shall automatically condition itself so as to be visually detected as activated. Manual stations shall be constructed of red coloured LEXAN (or polycarbonate equivalent) with clearly visible operating instructions provided on the cover</p>	
3.	Photoelectric Smoke Detectors	

No.	Requirement/Specification	Bidder's Response and page number reference.
Fire detection and suppression		
	Photoelectric smoke detectors Operating Voltage 24 - 41 VDC	
	Standby Current 450µA Alarm Current 540µA	
	Transmission Method DCP - Digital Communication Protocol Maximum Humidity 95% RH Non-Condensing	
	Ambient Operating 32°F to 120°F Temperature (0°C to 49°C)	
	Sensitivity Range 0.7-4.0%/FT@300FPM	
	UL Listed FM Approved	
	LED current: 6.5 mA @ 24 VDC (latched "ON")	
	Air velocity: 4,000 ft. /min. (20 m/sec.) maximum	
	Diameter: 6.1" (15.5 cm) installed in B350LP base	
	Height: 2.1" (5.33 cm) installed in B350LP base	
	Weight: 3.6 oz. (102 g).	
4.	HOOTER / Mini-Horns UL and ULC Listed CSFM, MEA and FM Approved, LPCB Operating Temperature Range: 0°C to 49°C (32°F to 120°F) Mounting: Surface: Deep single-gang backbox (2-3/4" deep)	
5.	Electrical Specifications Input Terminals: 12 to 18 AWG Nominal Voltage: Regulated 12DC/FWR or 24DC/FWR Operating Voltage: 8-33 Operating Voltage with MDL3R/W: 9-33 Drain on external supply: 2 mA maximum (using internal EOL relay). EOL resistance: 47K ohms Temperature range: 32°F to 120°F (0°C to 49°C). Humidity range: 10% to 93% non-condensing Fire Suppression System	
6.	Clean Agent 3M™ NOVEC™ 1230 CLEAN AGENT. UL and ULC Listed FM and LPCB approved NFPA 2001 standard Zero Ozone depletion potential Electrically nonconductive Safe concentration levels required to extinguish fire Effective performance on class A, B and C Fire Detection is not the complete Fire Protection Solution Original Equipment Manufacturers (OEMs) for NOVEC 1230 equipment authorized and certified to install and market NOVEC 1230 Fire protection.	
7.	Specific Technical Requirements The Storage Container offered shall be of seamless type and not Welded. The NOVEC 1230 valve, operating actuators shall be an Electric (Solenoid) type and should be capable of resetting manually. Provision should be provided on the Electric Control Head for a Manual Lever for over-ride in case of failure of the Electrical components. The Electric Control Head (Actuator) shall operate at 24 VDC. Vendors are required to submit confirmation for the same and provide the technical data sheet for the same. The Electric Control Head should be capable of being functionally tested for periodic servicing requirements, and without any need to replace consumable parts. The system flow calculations shall be carried out on certified software, approved and suitable for the design of the NOVEC system being offered. The System flow	

No.	Requirement/Specification	Bidder's Response and page number reference.
Fire detection and suppression		
	calculations shall be carried out by the OEM and only such vetted calculations shall be admissible for approval in this project	
8.	<p>General Technical Requirements</p> <p>NOVEC 1230 design should consider and address Fire hazards within total protected volume including all voids providing highest degree of protection and minimum extinguishing time as per NFPA 2001 standard</p> <p>The NOVEC 1230 Fire Suppression System shall include a detection and control switch provision for both pre-alarm and automatic agent release</p> <p>The NOVEC 1230 System to be supplied by the vendor must be strictly in accordance with OEM's product design criteria</p> <p>The detection and control system that shall be used to trigger the fire suppression system</p> <p>NOVEC 1230 suppression shall be linked to the photoelectric and ionization smoke detectors. A single detector in one zone activated, shall cause an alarm signal to be generated</p> <p>Another detector in the second zone activated, shall generate a pre-discharge signal and start the pre-discharge condition</p> <p>The discharge nozzles shall be located in the protected volume in compliance to the limitation with regard to the spacing, floor and ceiling coverage etc. The nozzle locations shall be such that the design concentration will be established in all parts of the protected volumes</p> <p>The Cylinders shall be equipped with differential pressure valves & No replacement parts shall be necessary to recharge the NOVEC 1230 containers</p> <p>NOVEC 1230 shall be discharge through the operation of an Electric (Solenoid) operated device which releases the agent through a differential pressure valve. Systems that employ explosive or pyrotechnic device shall not be permitted</p> <p>All system components shall be New and of Current manufacture and shall be installed in accordance with local codes. The Buyer, or the End user of this system reserves the Exclusive Rights to unconditionally reject any and all such components which may not be, or are suspected not to be of current manufacture; and / or on the grounds of authenticity of the system components and designs</p> <p>The vendor shall provide IN ORIGINAL all documentation such as Cylinder Manufacturing Certificates, Test and Inspection Certificates & Fill Density Certificates</p>	
9.	<p>The extinguishing system shall include the following components:</p> <p>NOVEC 1230 NF22180200 Container 25b TPED with solenoid inc brk</p> <p>NF285022 Pressure Gauge/Switch 50mm 25b 22.5b falling, NO lowP-Eu Novec Clean agent storage cylinder pressure gauge)</p> <p>NF280210A- Discharge pressure switch - 2b inc hose</p> <p>NF1230 3M Original Novec 1230kg</p> <p>NF26020 Pneumatic Actuator</p> <p>NF290211F - Manual Release sign FK-5-1-12 Foamex</p> <p>NF 32010212A Pilot CYL 10LT 200Bar IG100-Std Valve Inc. Outl.</p> <p>NF36010A Solenoid actuator (no diode) Inc Plug/Reset T/man</p> <p>NF361001 Inertech Bleed Valve Assembly</p> <p>NF2349550N NPT 49mm discharge Hose</p> <p>NF2349080 - 49mm Discharge outlet - spacer extension 80mm</p> <p>NF 24492-1 49mm discahrge check valve (NPT & BSP)</p> <p>NF370600 Intertech Actuation hose (600)</p> <p>NF37005K Intertech actuation house Slave valve 5m</p> <p>NF251522 BSP Nozzle 15mm 360 - Drilled brass</p> <p>NF252022 BSP Nozzle 20mm 360 - Drilled brass</p> <p>NF254022 BSP Nozzle 40mm 360 - Drilled brass</p>	

No.	Requirement/Specification	Bidder's Response and page number reference.
Fire detection and suppression		
	NF3291267 Single Row Cyl Strap NF290111 Sign Caution FK-5-1-12- Foamex NF22000613F Label Fill FSL 1230 -French NF201212 Chemical Gas Vent	
	Systems containing component that have a dated life span and must be periodically replaced shall not be acceptable	
	The releasing device shall also be capable of direct mechanical actuation, providing a means of discharge in the event of total electrical malfunction	
	Provided with a manual lever and a faceplate with clear instruction of how to mechanically activate the system. In all cases, NOVEC 1230 cylinders shall be fitted with a manual mechanical operating facility that requires two-action actuation to prevent accidental actuation	
	Release of NOVEC 1230 agent shall be accomplished by an electrical output from the Novec 1230 Gas Release Panel to the Electric control head release device and shall be in accordance with the requirements set forth in the current edition of the National Fire Protection Association Standard 2001	
10.	Size and placement of cylinders:	
	Data Centre	
	NOVEC 1230 80 Litre 25/42 bar agent storage cylinder as NF2280201 or equivalent.	
11.	VESDA	
	XT-VLP VESDA laserplus complete with Air sampling kits, capillary tube and lebls.	
	Listing and approvals- UL/ULC/FM/LPCB/VDS AND EN54-20	
	Supply voltate:- 18-30VDC Power consumption @ 24VDC IP rating: IP30	
	Operating Conditions: Tested to: -10°C to 55°C (14°F to 131°F) Detector Ambient: 0°C to 39°C (32° to 103°F) Sampled Air: -20° to 60°C (-4° to 140°F) Humidity: 10%–95% RH, non-condensing	
12.	Integration of fire suppression to access control	
13.	The suppression system shall be integrated to the data center environmental monitoring system and access control	
14.	The bidders should provide complete diagrams for the fire detection and suppression system. The drawings should: - a. Be coloured. b. Have all dimensions to scale. c. All units should be in millimetres. d. Depict the locations of all fire suppression and detection equipment	
	All Requirements are Mandatory	

The data center should have excellent cable organization within the floor racks. The goal is to provide standard cabling in the data center. The bidder will provide labelling for the cables. Below are minimum specifications for the cordage network and cordage requirements: -

Datacenter networking		
No.	Specifications Required	Bidder's Response and page number reference.
1.	Network design diagram	<p>The bidder should provide detailed network designs. These designs should entail the following components: -</p> <ol style="list-style-type: none"> The redundant core switches, stacking and interconnectivity. The core switch and access switches (for first floor and finance) placement within the five (5) racks. Each of the detailed designs drawings for the above four components should be coloured, have all dimensions to scale and all units should be in millimetres.
2.	Unshielded Twisted Pair (UTP) Cordage	<ol style="list-style-type: none"> Patching, equipment, and station cords shall be factory manufactured and shall be in compliance with Category 6 for channel performance. The use of field-manufactured cordage is not permitted. All cords shall be constructed of four twisted pair of 24 AWG stranded conductors terminated to industry standard 8P8C modular plug at both ends. Cordage shall be color-coded by service type (Voice, Data, Video, etc.). Colors shall be coordinated with and approved by EASA. Wiring schedule shall match that of patch panels and outlets. Cordage shall be of the same manufacturer as modular jacks, patch panels, and connecting/termination blocks. Wiring schedule shall match that of patch panels and outlets. Station cords shall be 5 m long. Equipment cords shall be 1-2 m long. Patch cords shall be available in varying lengths from 1 m to 5 m.
3.	Optical fibre	<ol style="list-style-type: none"> All optical fiber patch cords shall be 1.8 mm duplex (zip-cord), containing optical fiber strands equal to that specified for interior cabling, and shall match the type (graded-index or single-mode) connected to each cord. All cords shall be terminated to factory-polished duplex LC connectors and shall be fully in compliance with ANSI/TIA 568 C.3 standards for performance to 1000 Mb/s. The end-faces of all patch cords shall be of a Universal Positive Contact (UPC) configuration. Field-terminated cable assemblies are not permitted. Quantities and lengths of cords shall be coordinated with and approved by the Engineer. Cordage will be of the same manufacturer as that selected for the optical fiber and associated connectors.
All Requirements are Mandatory		

xx. Core Network Switch

The specifications of the core switch shall be as follows: -

Core network switch			
No.	Item	Specifications Required	Bidder's Response page number reference.
1.	Quantity	One (1)	
2.	C9500-48Y4C-E	Catalyst 9500 48-port x 1/10/25G + 4-port 40/100G, Essential	
3.	CON-SSSNT-C95084EY	SOLN SUPP 8X5XNBD Catalyst 9500 48-port 25/100G only, Esse	
4.	C9500-NW-E	C9500 Network Stack, Essentials	
5.	C9500-SSD-NONE	No SSD Card Selected	
6.	SC9500HUK9-173	Cisco Catalyst 9500H XE.17.3 UNIVERSAL	
7.	C9K-PWR-650WAC-R	650W AC Config 4 Power Supply front to back cooling	
8.	C9500-SPS-NONE	No Secondary Power Supply Selected	
9.	CAB-C13-CBN	Cabinet Jumper Power Cord, 250 VAC 10A, C14-C13 Connectors	
10.	C9K-F1-SSD-BLANK	Cisco pluggable SSD storage	
11.	C9K-PWR-C5-BLANK	Catalyst 9500 power supply blank cover	
12.	C9K-T1-FANTRAY	Catalyst 9500 Type 4 front to back cooling Fan	
13.	C9500-DNA-48Y4C-E	C9500 DNA Essentials, Term License	
14.	C9500-DNA-E-3Y	DNA Essential 3 Year License	
15.	CON-SSTCM-C9524QE	SOLN SUPP SW SUBC9500 DNA Essentials	
16.	NETWORK-PNP-LIC	Network Plug-n-Play Connect for zero-touch device deployment	
17.	Professional Services	The bidder shall undertake the following professional services: - a. Configuration of the core switch b. Network segmentation c. Migration of the existing network settings to the new core switch	
All Requirements are Mandatory			

The Data center will be monitored all the time by six (6) IP Cameras. The system will be independent of the building CCTV system. It should be supplied with an NVR and Storage for the footage. It shall have at least fifteen (15) users.

Datacenter CCTV			
No.	Item	Specifications Required	Bidder's Response and page number reference.
1.	Quantity	Six (6) IP CCTV Cameras.	
2.	Make and Model	Datasheets to be provided.	
3.	Camera Type	MUST be Digital IP, Dome Type. The camera must be accessible via an Ethernet port and use IP technology for access, management/configuration and data transfer.	
4.	Camera Angle Adjustment	Pan: $\pm 177^\circ$ and Tilt: $\pm 69^\circ$	
5.	Camera Resolution	The camera MUST have at least 4MP with high definition HD images and support the following resolutions 1080p (1920x1080), 720p (1280x720), D1 (720x480), CIF (352x240).	
6.	Image Sensor	The camera shall incorporate 1/2 inch or higher CMOS sensor 1920(H) x1080V.	
7.	Frame Rate	The camera should have a frame rate of H.264: up to 30 fps @ 1080p, MJPEG: up to 25 fps @ 720p.	
8.	Power	4.9–5.1 VDC, max.2.4W; Power over Ethernet IEEE 802.3af/IEEE 802.3at Type 1Class 1 (max.3.84W).	
9.	Connectors/Networking	Male RJ45 10BASE-T/100BASE-TXPoE, HDMI (Micro). Video out compatible with DVI.	
10.	PC and web browser support	OS: Windows 2000, Windows XP, Windows Vista, Windows 7/10, Windows Server 2012/2016 Browser: Windows Internet Explorer 7, 8, Mozilla Firefox, Opera and Google Chrome.	
11.	Number of Channels	MUST have at least 10 Channels.	
12.	Form Factor	MUST be rack mountable.	
13.	Processor and Memory	<ul style="list-style-type: none"> ▪ Intel® i5 4570S, Quad Core, 2.90 GHz Turbo, 6MB. 8GB (2x4GB) 1600 MHz DDR3. 	
14.	Optical Disc Drive	OEM DVD RW.	
15.	Storage	<ul style="list-style-type: none"> ▪ 12 TB (1x12TB) Enterprise Class HDD, 7200 rpm, SAS 6Gbps. To be configured in RAID 5.	
16.	Other NVR Features	<ul style="list-style-type: none"> ▪ Graphic card: AMD Radeon R5 340X 2 GB 2 monitors supported. ▪ Operating system: Microsoft Windows 10 IoT Enterprise. ▪ Video streaming: Live view up to 25 camera split views or 1 x 4K camera view. ▪ Playback: 4 x 1080p camera split views or 1 x 4K camera view. ▪ Recording: Qualified for recording up to 32 video channels with a total recording rate up to 256 Mbit per second. ▪ Connectors: 6xUSB 2.0, 4xUSB 3.0, 1xDisplay Port, 1xDual link DVI-I Ethernet LAN 10/100/1000 Mbit, Line-in/out connectors, Computer mouse and keyboard connectors Form factor: 2U	
17.	Warranty	Three (3) years.	

Datacenter CCTV			
No.	Item	Specifications Required	Bidder's Response and page number reference.
18.	Video Management Software	<ul style="list-style-type: none"> ▪ Support video recording and playback. Time search, event search and date search. Multi-channel and remote channel playback (36 channels) and playback speeds of up to 32X. 	
19.	Access over Web	The entire CCTV should be accessible through a Browser within the WAN.	
20.	Video Compression	H.264 (MPEG-4 Part 10/AVC) Baseline, Main and High Profiles Motion JPEG	
21.	Diagrams	<p>Detailed design drawings showing how the IP CCTV System will be implemented. The drawings should: -</p> <ul style="list-style-type: none"> ▪ Be coloured. ▪ Have all dimensions to scale. ▪ Indicate the placement of all the cameras. ▪ All units should be in millimetres. 	
22.	Services and other accessories	<ul style="list-style-type: none"> ▪ Site survey is mandatory. ▪ Bidders should establish from the site survey how the cameras shall be installed. ▪ All the drilling necessary for placement of the external units should be factored in the cost. 	
All Requirements are Mandatory			

xxii. Access Control

Access control shall be managed by an IP based Access Control System using fingerprints, PINs and proximity cards. The main entry and exit doors will be provided with magnetic locks, and will operate on fail-safe principle through one common access control system. The two doors shall have biometric units both outside and inside. The system would be designed and implemented to provide following functionality: -

- i. Configurable system for user defined access.
- ii. Built-in Real Time Clock (RTC), calendar, complete relational database stored locally and shall be capable of operating offline on standalone mode.
- iii. Record, report and archive each and every activity (permission granted and / or rejected) with log formats.
- iv. Fail safe operation in case of no-power condition and abnormal condition such as fire, theft, intrusion, loss of access control etc.
- v. At the biometric reader, user presents the finger to the biometric reader which is unique to each employee. The pattern is read and compared with stored data to grant/deny access.
- vi. The biometric units should accommodate fingerprints, PINs and proximity cards.
- vii. EASA shall provide a Windows Server and SQL Server database to operationalize this system.

No.	Item	Specifications Required	Bidder's Response and page number reference.
1.	Technology	IP based Access Control System using facial, fingerprints, PINs and proximity cards.	
2.	Make and Model	Coloured product datasheets to be attached.	
3.	Biometric Devices	<ul style="list-style-type: none"> ▪ Four (4) devices to be supplied. ▪ All four (4) devices MUST have facial, fingerprints, PINs and proximity cards functionality ▪ MUST have fast and accurate fingerprint identification with at least 4MB Memory and a log capacity of at least 40,000 events. ▪ Should be capable of using RF Card, password and fingerprint and face recognition operation modes. ▪ Should use PoE. 	
4.	Door Controllers	<ul style="list-style-type: none"> ▪ Capable of handling 500,000 events buffering. ▪ Supports DHCP and Static IP. ▪ Four (State) alarm monitoring. ▪ 12V 7Ah batteries. ▪ Input: 220V AC, 50Hz (110V optional). ▪ Output: 12V DC, 3A. ▪ Communication: TCP/IP and RS-485. 	
5.	RFID Cards	<ul style="list-style-type: none"> ▪ 125 kHz Proximity Card. ▪ Read only. ▪ Printed and Not printed version. ▪ Thin cards. ▪ Fifteen (15) cards to be provided. 	
6.	Door Locks	<ul style="list-style-type: none"> ▪ Double Door Electro-Magnetic Lock (600KG). ▪ Single Door Electro-Magnetic Lock (300KG). ▪ System Override Key (In the event of the System Stalling). ▪ Emergency Break Glass. ▪ Power Supply Unit with a Backup Battery (20AH, 12v UPS/Battery), inclusive of approximately 30 metres power supply cable to two readers. ▪ Emergency Exit Doors. ▪ Wired Door Contact for Fire Exit Doors. ▪ Wired Internal Siren and Strobe for fire exit doors. 	
7.	Database and Servers	<ul style="list-style-type: none"> ▪ Should use SQL Server 2019 or above – KCAA to provide the database licenses. <p>Should use Windows Server 2016 or above – KCAA to provide a VM with the OS installed.</p>	
8.	Management and Monitoring	All Ins/Outs should be presented to Authorized Users via a Web-Based Interface.	
9.	Registration of Users	<ul style="list-style-type: none"> ▪ To be done easily with a Software Interface. <p>Vendor to register all users (up to 10) and print all the cards.</p>	
10.	Events	All events to be directly recorded into the SQL Server database in real-time.	
11.	Diagrams	<p>Detailed design drawings showing how the access control will be implemented. The drawings should: -</p> <ul style="list-style-type: none"> ▪ Be coloured. ▪ Have all dimensions to scale. ▪ Indicate the placement of the four (4) biometric devices, two (2) for each door, outside and inside. ▪ Indicate the placement of the central control panel. ▪ Indicate the placement of the door panels, each door should have its own panel. <p>All units should be in millimetres.</p>	
12.	Services and other accessories	<ul style="list-style-type: none"> ▪ Site survey is mandatory. ▪ Bidders should establish from the site survey how all the controllers, panels and other units shall be installed. ▪ Installation, configuration and testing. ▪ Door magnetic contacts. ▪ Power cables and any other materials necessary to complete the works. 	
13.	Warranty and OEM Support	The system should be supported for at least three (3) years. This supported should be backed by OEM.	
All Requirements are Mandatory			

xxiii. Monitoring and Management Systems

The infrastructure for the data center should be managed through a DCIM. The DCIM tool monitors the racks and devices in them as well as keeping track of available rack space.

Monitoring and management systems			
No.	Item	Specifications Required	Bidder's Response and page number reference
Monitoring – Controlling unit			
1.	Dimensions	1U Rack	
2.	Expansion Ports	<ul style="list-style-type: none"> ▪ 2x RJ-45 Expansion Ports. ▪ 115.2K BPS Data Transfer Rate. ▪ Simultaneous functionality between Expansion Ports & RS485 port threshold status. 	
3.	Mounting	<ul style="list-style-type: none"> ▪ Rack mount brackets to be included. ▪ Compatible with rack mount trays. 	
4.	Power Requirements	Voltage 7.0 – 9 VDC, 3Amp.	
5.	Status Indication	<ul style="list-style-type: none"> ▪ LED indication for Power. ▪ LED for Network Connectivity. ▪ LED for sensor online and threshold status. 	
6.	Output	<ul style="list-style-type: none"> ▪ Ext. Speaker Out, 2.5" jack (Analog) ▪ Mic Out, 2.5" jack (Analog) (For modem application). 	
7.	Inputs	<ul style="list-style-type: none"> ▪ 8x RJ-45 Sensor Ports ▪ 2x RJ-45 Expansion Ports ▪ 1x USB 2.0 Modem Port ▪ 4x Video Ports ▪ Audio In (Analog) 2.5" jack ▪ RS485, 2 Pin Terminal box, (used for Modbus) x4 PTDC Ports. 	
8.	Operating Environment	<ul style="list-style-type: none"> ▪ Temp: Min. -35° C – Max. +55° C. ▪ Humidity: Min. 20% – Max. 80% (Non-Condensing). 	
9.	Components	<ul style="list-style-type: none"> ▪ 128 MB On-Board NAND Flash. ▪ Internal on-board 2 GB SD Memory Slot. 	
10.	Power Consumption	Typical 3.375 Watt, 0.45A.	
11.	MTBF	400,000 Hours.	
12.	Expansion Boards	<ul style="list-style-type: none"> ▪ 8 Port Intelligent Sensors Module ▪ 16 Port Dry Contacts Module (Maximum of 500 Sensors). 	
13.	Notification	<ul style="list-style-type: none"> ▪ SMS – Bidder to cover costs for the SLA period. ▪ Email. ▪ SNMP. ▪ TRAP. ▪ Telephone Calls. ▪ Picture Logs. ▪ Remote Server Shutdown. 	
14.	Warranty	At least one (1) year warranty.	
Monitoring - Environmental			
Thermometer Specifications			
15.	Measurement range	-40°C to +75°C -67°F to +167°F.	
16.	Measurement accuracy	±0.5°C accuracy from -10°C to +75°C ±0.9°F accuracy from +14°F to +167°F ±1°C accuracy from -10°C to +75°C ±1°F accuracy from +14°F to +167°F.	
17.	Measurement resolution	0.5°C increments 0.9°F increments 1°C increments 1°F increments	
18.	Power source	Powered by Monitoring base unit. No external power	
19.	Communications cable	RJ45 jack with standard CAT5 UTP cable	
20.	Power Requirements	7.0 – 9 V / >= 3 Amp	
21.	Power Consumption	Typically 10.70mWatt at 2.14mA	

Monitoring and management systems			
No.	Item	Specifications Required	Bidder's Response and page number reference
22.	Sensor type	Semiconductor, microprocessor controlled	
Humidity Specifications			
23.	Measurement range	0 to 100% Relative humidity	
24.	Resolution	1%	
25.	Accuracy at	25°C ±3%	
26.	Communications cable	UTP Cat 5 cable	
27.	Power source	Powered by the Controlling Unit. No additional power needed	
28.	Power Consumption	Typical 7.25 mWatt, 1.45mA	
29.	Sensor	Sensor element wettable without damage	
Rope water sensor specifications			
30.	Measurement Range	Wet or Dry (-20 degrees C- +60 degrees C)	
31.	Measurement Accuracy	Able to detect the presence or non-presence of water	
32.	Sensor Type	Capacitance measurement technology	
33.	Power Consumption	Typical 125 mWatt, 25 mA	
34.	Power Source	Powered by the Controlling unit. No additional power needed. Both units AutoDetect the presence of the rope Water sensor	
35.	Assembly	Comes fully assembled and includes the rope portion that is the water sensing cable, the non-sensing area cable (from the rope to the sensing module) and the main sensing module	
Door security sensor specifications			
36.	Measurement Range	Alarm or Normal	
37.	Communications Cable	RJ45 jack to sensor using UTP Cat 6 wire	
38.	Sensor Type	Open/closed contact switch	
39.	Power source	Powered by the Controlling Unit. No additional power needed	
40.	Power Consumption	Typical 8.95 mWatt, 1.79Ma	
41.	Measurement Rate	Multiple readings every second	
		Maximum extension cable length 305m (1000 ft.) with approved low capacitance shielded cable or UTP	
		Control Unit auto detects the presence of the security sensor	
42.	Firmware features	<ul style="list-style-type: none"> ▪ Environmental monitoring – Logging and Graphing. ▪ Alarms with escalation, repeat and delay. ▪ Security enabled Web access. ▪ Email. ▪ SMS – Using SIM Cards and/or Email to SMS. ▪ At least four (4) programmed contacts for SMS/Email notifications. 	
43.	Integration	IP CCTV Cameras.	
44.	Accessories and other works	All accessories, cabling, mounting and configurations required to make the solution operational.	
45.	Warranty	At least one (1) year warranty	
All Requirements are Mandatory			

SECTION 2: MANDATORY TECHNICAL REQUIREMENTS AND RESPONSIVNESS CHECKLIST FOR INSTALLATION OF CLEAN POWER FOR EASA ICT LABORATORY

EASA has established a modern ICT lab for students. There is need for clean power in the lab to serve the eighty (80) computers and related accessories in the lab. The clean power shall be from an APC UPS or equivalent. There is 3 phase power supply which is about 50 metres from the laboratory. It is recommended that a 3 phase UPS be installed as this provides more stability and prevent disruption in cases of mains phase failure.

The specifications of this clean power installation are detailed below. All Vendors MUST respond in writing against each technical requirement clearly showing technical compliance for each specification against their brochure with references. Marking compliant/non-compliant (√) or (X) will be considered INVALID and WILL NOT BE EVALUATED.

i. 20KVA UPS APC UPS – Quantity 1

No.	Items	Description	Bidders' Responses and reference
General			
1.	Make and Model	APC Smart-UPS 20KVA VT 400V With 4 Battery Modules	
2.	SmartSlot Interface	1	
3.	Communications	Serial via	
4.	Emergency Power Off (EPO) Support	Yes	
Power			
5.	Maximum Current	27 A	
6.	Maximum Wattage	16,000 W	
7.	Nominal Input Voltage	400 VAC 3PH	
8.	Input Voltage Range	380 to 415 VAC	
9.	Input Voltage Adjustable Range	304 to 477 VAC	
10.	Input Frequency	50/60 Hz ± 10 Hz (Auto Sensing)	
11.	Output Voltage Range	230 to 415 VAC	
12.	Voltage Distortion	<5%	
13.	Load Capacity	20,000 VA	
14.	Circuit Breaker Rating	50 A	
15.	Thermal Dissipation	3112 BTU/Hour	
16.	Maximum Efficiency	95.3%	
17.	Crest Factor	3:1	
18.	Waveform	Sine Wave	
Battery			
19.	Cells	4	
20.	Recharge Time	5 Hours	
21.	Replacement Battery	VRLA	
Environment			
22.	Operating Temperature	32 to 104°F / 0 to 40°C	
23.	Operating Humidity	0 to 95%	
24.	Storage Temperature	-60 to 104°F / -50 to 40°C	
25.	Storage Humidity	0 to 95%	

26.	Operating Altitude	3333' / 1000 m	
27.	Storage Altitude	50,000' / 15,000 m	
28.	Noise Level	51 dBA	
Physical			
29.	Dimensions (W x H x D)	59 x 22 x 32" / 149.9 x 55.9 x 81.3 cm	
30.	Weight	1320.8 lb / 599.1 kg	
31.	Package Weight	1415 lb	
32.	Box Dimensions (LxWxH)	65 x 42 x 26"	
All Requirements are Mandatory			

ii. Installation Requirements and Other Works

Installation requirements and other works		
No.	Requirement Description	Bidders' Responses and reference
1.	Earthing and Lightning Protection Kit	
2.	Main AC distribution board	
3.	AC changeover 100A	
4.	35mm armored cable 4 core	
5.	10mm armored cable 4 core	
6.	Cable lugs for 35mm	
7.	Cable lugs for 10mm	
8.	Complete MCCBs for the Raw power	
9.	Complete MCCBs for the clean power	
10.	Installation accessories	
11.	Phase failure board LED lighting	
12.	Required labour and installation costs	
All Requirements are Mandatory		

SECTION 3: MANDATORY TECHNICAL REQUIREMENTS AND RESPONSIVENESS CHECKLIST FOR MIGRATION, MANAGEMENT OF LIVE SYSTEMS/SERVICES, PROJECT MANAGEMENT, KEYS MANAGEMENT, TRAINING, SLA SERVICES AND OTHER HARDWARE REQUIREMENTS

All Vendors MUST respond in writing against each technical requirement clearly showing technical compliance for each specification against their brochure with references. Marking compliant/non-compliant (√) or (X) will be considered INVALID and WILL NOT BE EVALUATED.

i. Decommissioning of the Old Data center and Migration to the New Data center

After remodeling the data center, EASA expects the bidders to carefully remove the existing obsolete ICT equipment in the decommissioned data center. These include, but not limited to server racks, monitors, UPSs, air conditioners, cables, trunkings and other accessories. Migrations and management of LIVE EASA systems are also parts of the requirements.

Migration of selected active devices and servers from the old to the new data center. Tests to be done to ensure connectivity. The devices to be migrated include: -

- i. Virtual environment base on VMware constituting of three (3) virtualized servers.
- ii. Internet and WAN links
- iii. Routers.
- iv. Fortinet firewall devices.
- v. Six (6) Cisco switches and CCTV switches
- vi. Two (2) WIFI controllers – Ruckus and Unifi/Ubiquiti
- vii. CCTV systems and NVR
- viii. Alcatel PABX and its entire network infrastructure.

Decommissioning of the old datacenter and migration to the new data center.			
No.	Item	Specifications Required	Bidder's Response and reference
Removal of obsolete ICT equipment			
1.	Removal of Server Racks	Removal of all Server Racks currently in the Data center	
2.	Removal of Monitors	Removal of Computer Monitors	
3.	Removal of UPSs	Removal of UPSs	
4.	Removal of Air Conditioners	Removal of Air Conditioners	
5.	Removal of Trunkings and Cables	Removal of Trunkings and Cables	
6.	Old Fire Suppression System	Removal of the obsolete fire detection and suppression cylinders and a fire alarm.	
7.	Removal of the Ceiling	The ceiling within the data center should be removed and replaced with a modern ceiling.	
8.	Transportation	Transportation of all removed equipment to KCAA Central Stores in Mlolongo approximately 15 KMs from EASA	
9.	Disposal of Debris	Disposal of Debris	
10.	Others	Removal of other items identified within the data center as unnecessary	
11.	Migration of servers	Migrate and test for functionality of the following servers: - a. Two (2) IBM servers b. DELL server	
12.	Migration of ISP routers	Migrate and test for functionality KENET ISP routers. Three ISP routers for KENET subcontracted companies – Liquid Telkom, FONE and GG Net should also be migrated.	

13.	Migration of WAN router	Migrate and test for functionality Safaricom WAN router.	
14.	Firewalls	Two (2) Fortinet firewall devices	
15.	CISCO and CCTV switches	Six (6) CISCO switches and CCTV switches.	
16.	WIFI controllers	Two (2) WIFI controllers	
17.	CCTV System and NVR	Migrations of several CCTV Systems and NVRs	
18.	Alcatel PABX	Migrate the PABX network cabinet. Migrate all the net work cabling associated with the PABX. Migrate all the telephone extensions to the new network and test for functionality.	
19.	Other supporting services	Migration and testing of other assorted services	
All Requirements are Mandatory			

ii. Management of LIVE EASA Systems and Services

Minimal interruptions are expected during the entire data center remodeling and modernization process. To ensure this, the bidder should: -

- a. Work on the equipment room first before migrating the existing equipment to the new data center.
- b. Cordon-off the existing data center and protect the equipment from dust and other elements during the remodeling of the equipment room.
- c. Moving LIVE equipment to the remodeled equipment room as the utility and control room are remodeled.
- d. Installation, powering and testing equipment in the equipment room.

Management of LIVE EASA Systems and Services		
No.	Requirements	Bidder's Response and reference
1.	Work on the equipment room first before migrating the existing equipment to the new data center.	
2.	Cordon-off the existing data center and protect the equipment from dust and other elements during the remodeling of the equipment room.	
3.	Cordon-off the section of the Finance Office that will be affected by the data center partitioning	
4.	Moving LIVE equipment to the remodeled equipment room as the utility and control room are remodeled.	
5.	Installation, powering and testing equipment in the equipment room.	
6.	The bidder should provide a practical proposal of how they shall ensure that the operations offices surrounding the proposed data center remain operational and unencumbered during the data center remodeling project.	
All Requirements are Mandatory		

iii. Project Management

Project management		
No.	Requirements	Bidder's Response and reference
1.	A detailed technical proposal entailing the following: - a. The bidder's understanding of the EASA's data center problem and a narrative of the solution. b. As per the information provided in the technical mandatory documentation, details of all the proposed staff to work on the solution.	
2.	Mandatory letter to KCAA providing assurance that the project will be completed in six (6) months after contract activation. The actual implementation of the data center data after the equipment and devices have been delivered should last less than four (4) weeks.	
3.	A Comprehensive Project Implementation Plan to be attached.	
4.	Ten percent (10%) performance guarantee to be provided on after contract signing.	
5.	Bidder to provide their methodology for quality assurance on the following aspects of the entire project: - a. Remodeling and modernization of Data center b. Installation of clean power for EASA ICT laboratory c. Disposal of obsolete items, migration of equipment and data, technical training, and knowledge transfer d. Migration of existing equipment	
All Requirements are Mandatory		

iv. Physical Intelligent Key Management Devices/Cabinets

Physical Intelligent Key Management Device/Cabinet		
No.	Specifications Required	Bidder's Response and reference
1.	Number of devices – Two (2)	<ul style="list-style-type: none"> a. One device for KCAA HQ to be mounted at ICT offices. b. The second device for EASA shall be mounted at the monitoring room for the data center.
2.	User management	<ul style="list-style-type: none"> a. Selected or random PIN code. Option to change code at cabinet(s). b. Biometrics option (fingerprints and face) for access to the key management device. c. Inactivation of users. d. Validity period for users. e. Unlimited number of users.
3.	Capacity	Should be able to manage at least 60 keys
4.	Communication	Ethernet using an IP address
5.	Keys management	<ul style="list-style-type: none"> a. Time restriction. b. Searchable hidden key ID. c. Graphical key overview. d. One key in one or more cabinets. e. Free or fixed key position.
6.	Event Log	<ul style="list-style-type: none"> a. Log from PC and cabinet(s). b. Selection of what will be shown in log. c. Intelligent search function. d. Sort by date or events. e. Clear alarm indications. f. Reports via CSV file and PDF.
7.	Administrators	<ul style="list-style-type: none"> a. Unlimited number of administrators. b. Adjust administrator rights. c. Selection of cabinet(s) for administration.

Physical Intelligent Key Management Device/Cabinet		
No.	Specifications Required	Bidder's Response and reference
		<ul style="list-style-type: none"> d. Only information about own cabinet(s). e. Activities registered in log.
8.	Groups	<ul style="list-style-type: none"> a. Groups for users and keys. b. Time channels. c. Simple administration via groups.
9.	Key Cabinet	<ul style="list-style-type: none"> a. Search function in display. b. Information about who has key. c. Service menu for configuration. d. Administration code with full authorization. e. Stand-alone or network. f. Automatic or fixed IP address. g. Door alarm and Key Alarm.
10.	Specifications	<ul style="list-style-type: none"> a. Cabinet Dimensions: 746 x 730 x 140 mm b. Weight: 30 kg c. Power Supply: Input: AC120-240V d. Output: VDC e. Battery Backup: DC12V 3.2Ah (24hours) f. Power Consumption: 65W max/0.3A g. Cabinet Material: Steel h. Color Options: Light Grey Powder Coated i. Door Material: Standard Clear Polycarbonate or j. Optional Solid Metal Door k. Operating Temp: Ambient for Indoor Use Only l. Mounting: Wall or Cabinet stand mounted m. Key Positions: 14-98 n. Receptor Strip Support: Locking, Non Locking, o. Users per systems: 10,000 plus p. Communications: Ethernet, GPRS, RS485, RS232, Modem q. Reader Interface: Wiegand
11.	Reporting	<ul style="list-style-type: none"> a. Web interface for access to reports b. Notifications – SMS and email
12.	Key Fobs	<ul style="list-style-type: none"> a. Key rings will be attached to a tracking fob. b. Sensors in the cabinet will scan the fob when keys are signed out and returned to verify that the correct keys are present. c. RFID is a short-range wireless communications standard most often used for machine-to-machine communication. d. 50 key fobs to be availed for each device.
All Requirements are Mandatory		

v. Training and Knowledge Transfer

Training and Knowledge Transfer		
No.	Specifications Required	Bidder's Response and reference
1.	<p>Certified Data Center Design Professional (CDCP) and Certified Data Center Management Professional (CDCMP) for three (3) ICT staff. The training should entail: -</p> <ul style="list-style-type: none"> a. The expected delivery Method is In-person/Instructor-LED (Classroom program). b. Training Duration: 80 Hours. c. The training MUST be done at a CNET Internationally recognized/accredited facility with instructors, and on-site labs and data centers for both hardware and software. d. Bidder MUST include all costs for the training and DSA based on purchaser's standard rate. These costs include but not limited to Airfare and Terminal transport. e. All training materials, exam revision kits, Certification and exam costs should be included. 	
2.	<p>Project Monitoring and Evaluation for three (3) KCAA staff. The training should entail: -</p> <ul style="list-style-type: none"> a. The expected delivery Method is In-person/Instructor-LED. b. Training Duration: 80 Hours. c. The training MUST be done at the Internationally Law Institute recognized/accredited facility with instructors. d. Bidder MUST include all costs for the training and DSA based on purchaser's standard rate. These costs include but not limited to Airfare and Terminal transport. e. All training materials, exam revision kits, Certification and exam costs should be included. 	
3.	<p>On site knowledge and skills transfer for the following:-</p> <ul style="list-style-type: none"> 1. Data center and networks. 2. Server racks 3. UPSs 4. Air conditioners 5. Switches 6. Access control system 7. Fire detection and suppression system 8. Structured cabling components. 9. Clean power solution components. 10. Raised floor 11. Data center monitoring and management system. 	
All Requirements are Mandatory		

vi. Service Level Agreement – Data center and Clean power for the ICT lab

Service Level Agreement - Data center			
No.	Item	Specifications Required	Bidder's Response and reference
1.	Maintenance and Support Term	The maintenance and support period is three (3) years.	
2.	Passive Devices/Equipment to be maintained and supported in the datacenter.	<ul style="list-style-type: none"> a. Server racks b. Lighting System with motion sensor switching system c. Precision Air Conditioning System – STULZ in-row air conditioners d. Structured cabling (Ethernet) e. Cable management f. Dual power connections for all supported equipment g. Raw power system h. TRIPPLITE UPS and UPS power system i. UPS battery banks j. TM3 – Datacenter environmental monitoring system k. PDU system l. Raised floor m. DCIM system n. Automatic Voltage Regulator (AVR) o. Fire detection and suppression p. Any other data center equipment 	
3.	Preventive Maintenance for EASA data center	<ul style="list-style-type: none"> a. Health checks for all passive devices/equipment b. Firmware and software upgrades as applicable c. Equipment/devices cleaning to remove dust and residue accumulation d. Change of filters and refrigerants for air conditioners e. Testing of equipment and devices f. Review of logs and alerts for equipment where applicable g. Check for any safety hazards h. Inspection of equipment and removal of zombie devices and loose cabling i. Check any presence of corrosion, dust/residue accumulations, dripping water, unusual equipment noises etc j. Inspect overall cleanliness, temperature levels, ventilation obstructions and access hindrances k. Sign checklists for each device/item l. Failover and failbacks of servers based on a risk-based approach. <p>The required preventive maintenance duration is four working days</p>	
4.	Corrective Maintenance	To be undertaken immediately a maintenance component fails. OEM to provide replacement parts. Where downtime is required, this shall be arranged with the KCAA systems administration team for approval prior to the required downtime.	
5.	Outage Severity Levels and Required Response Times	<ul style="list-style-type: none"> a. Severity One/Red: KCAA is unable to do their business as a result of complete or partial system failure. This has a major impact on the EASA's business operations. 	

Service Level Agreement - Data center			
No.	Item	Specifications Required	Bidder's Response and reference
		<p><u>Response:</u> The vendor should respond within one (1) hour. A resolution or a workaround should be provided within two (2) hours.</p> <p>b. Severity Two/Orange: The problem has high visibility and impacts on the way KCAA does business. The service is disrupted but not halted. The system performance may be degraded, or functions limited.</p> <p><u>Response:</u> The vendor should respond within three (3) hours. A resolution or a workaround should be provided within twelve (12) hours.</p> <p>c. Severity Three/Green: A single component or several components are affected with or without a work around. The problem may affect EASA's efficiency but is limited in visibility and does not prevent work from being completed.</p> <p><u>Response:</u> The vendor should respond within twelve (12) hours. A resolution or a workaround should be provided within seventy-two (72) hours.</p>	
6.	Fault Logging Procedure and Reporting	<p>a. The vendor to provide a support service desk email and a telephone number manned 24/7 for logging faults and a fault should be allocated a reference number for ease of tracking.</p> <p>b. Response to faults logs shall be undertaken as per the response times based on severity levels.</p> <p>c. Once a red or orange level fault is resolved, a report should be provided entailing the following: -</p> <ol style="list-style-type: none"> i. The root cause analysis ii. The measures taken to resolve it iii. The measures taken to ensure it does not recur 	
7.	Escalations	<p>The vendor shall provide two escalation levels after a fault is reported and left unattended. Phone numbers and email addresses of the escalation levels shall be required. The levels are as follows: -</p> <ol style="list-style-type: none"> a. Level 0 – Normal helpdesk reporting after a fault. b. Level 1 – Technical manager or service provision manager after the response times for resolution are not met. c. Level 2 – The CEO after the required response times are not met after escalating to level 2. 	
8.	Maintenance and Support Services	<ol style="list-style-type: none"> a. Consultation for guidance on complex procedures and processes in configuration and integration of the Solution. b. Assistance in configuration of the Solution in case of failure of any part of the System. c. Configuration of the Solution to optimize performance. d. Bugs and Errors resolution as far as the VMWare software is concerned. e. Receive, classify, log and track all reported issues and provide case updates until the issues is conclusively resolved. f. Provide urgent security alerts on the version deployed by the client. 	

Service Level Agreement - Data center			
No.	Item	Specifications Required	Bidder's Response and reference
		<ul style="list-style-type: none"> g. Troubleshooting and provide workarounds assistance where existing system cannot perform some of the tasks. h. Installation and configuration advice to KCAA ICT technical staff. i. Answering questions and providing a reasonable level of guidance to KCAA about the Virtualization and SAN Solution. j. Provide trained Technical Support personnel to handle inquiries and problems. k. Provide documentation updates and major system releases information. l. Provide pro-active maintenance release announcements sent to customer directly. 	
9.	Infrastructure Upgrades	<p>Occasionally the Authority will make plans for replacement of the infrastructure. The vendor will be required to: -</p> <ul style="list-style-type: none"> a. Make recommendations for infrastructure (servers, switches, hypervisors, backup solutions and storage) upgrades to EASA. b. Undertaking infrastructure upgrades as requested by EASA. 	
10.	SLA Costs	<p>All costs pertaining to the preventive maintenance shall be borne by the vendor. These include: -</p> <ul style="list-style-type: none"> a. Materials required for the preventive maintenance e.g., refrigerant, filters, cleaning agents, paint etc. b. All equipment required for the SLA like blowers, drills, brushes et al. c. Costs of facilitation and transportation of vendor's staff and equipment to the site. 	
11.	SLA Payments	<p>Payments pertaining the one-year SLA shall be paid semi-annually in arrears, invoicing and provision of SLA (maintenance and support) reports applicable for the payment period.</p>	
12.	Sample SLA	<p>The vendor shall provide a sample SLA that meets all the above provisions for adoption in the contract.</p>	
All Requirements are Mandatory			

**PART 2: LOT 2 - OVERHAUL OF THE NETWORK INFRASTRUCTURE (LAN),
EXTENSION OF WLAN (WIFI) COVERAGE AND EXTENSION OF CCTV COVERAGE**

**THE FOLLOWING CRITERIA WILL BE USED TO DETERMINE MANDATORY
TECHNICAL DOCUMENTATION RESPONSIVENESS OF THE BIDDERS FOR LOT 2.**

All bidders must provide the following mandatory technical documentation for LOT 2 to be considered as responsive in order to proceed to the next stage of evaluation. The bidder **MUST** provide detailed explanations of how they shall fully meet the required technical documentation. Bidders should **NOT** write complied or just tick (√) against a requirement, a full detailed explanation is required. **ALL THE REQUIREMENTS ARE MANDATORY.**

Mandatory Technical Documentation Requirements			
No.	Item/Specification	Requirement	Bidder's Response and page number reference.
1.	Vendor's experience in network design and implementation	The bidder MUST have successfully designed, implemented, supported and maintained at least three (3) network projects EACH with a value of at least KES 20 (Twenty) million within the last six (6) years. For each of the three (3) sites, attach the following: - i. Name of site and client ii. Valid copies of LSO or contracts iii. Respective completion certificates and/or respective recommendation letters iv. Contact person's name and email address	
2.	Staff competence in structured cabling and networking	The bidder MUST have at least five (5) engineers trained and experienced in structured cabling and networking. For each of the engineers, attach the following: - iv. Attach CVs v. Attach copies of certificates showing training in networking vi. Attach documentation for the sites implemented by the respective engineers. <i>The engineers proposed here MUST be involved in the implementation of the project if awarded.</i>	
3.	Staff competence in PABX, CCTV and WLAN	The bidder MUST have at an engineer trained and experienced in each of the following: PABX, CCTV and WLAN. For each of the engineers, attach the following: - iv. Attach CVs v. Attach copies of certificates showing training in PABX, CCTV and WLAN vi. Attach documentation for the sites implemented by the respective engineers. <i>The engineers proposed here MUST be involved in the implementation of the project if awarded.</i>	
4.	Staff competence in project management.	The bidder MUST have at an engineer trained and experienced in project management. Attach the following: - iv. Attach CVs v. Attach copies of certificates showing training in project management. vi. Attach documentation for the sites implemented by the respective engineers. <i>The engineers proposed here MUST be involved in the implementation of the project if awarded</i>	

Mandatory Technical Documentation Requirements			
No.	Item/Specification	Requirement	Bidder's Response and page number reference.
5.	Electrical/mechanical construction competence	The bidder should have at least National Construction Authority (NCA) 2 (Two) category under Electrical/Mechanical. Documentation to be attached.	
6.	Builder's works competence	The bidder should have at least National Construction Authority (NCA) 4 category under Builders Works/Contractors. Documentation to be attached.	
7.	EPRA licensing for the bidder	The bidder must be an Electrical Contractor licensed by the EPRA, at least class B. Documentation to be attached.	
8.	EPRA licensing for bidder's technicians	The bidder must have at least two (2) electrical technicians licensed by the EPRA. Documentation to be attached.	
9.	Competence and certification for Occupational Safety and Health	The bidder MUST have certification for Occupational Safety and Health. Documentation to be attached.	
10.	Site Survey	The bidder MUST attend a Prebid meeting and carry out a survey for the proposed network infrastructure sites. The Prebid and site survey form MUST be duly signed and stamped by a KCAA staff.	
11.	High Level Technical design diagrams for the proposed EASA LAN overhaul	The bidder shall provide high level technical design diagrams for the proposed LAN overhaul in the entire compound. The diagram should depict the bidder's understanding of the overhaul requirements. The diagrams MUST have the following attributes: - i. Indicate the overall topology design of the network indicating the various offices, network cabinets and trunking ii. Use different colour codes to depict fibre, ethernet and power cabling iii. All units should be in millimetres and clearly labelled iv. The diagram should be in full colour v. All items in the diagram should be to scale	
12.	Low Level Technical design diagrams for the proposed EASA LAN overhaul	The bidder shall provide low level technical design diagrams for the proposed LAN overhaul in the entire compound. The diagram should depict the bidder's understanding of the overhaul requirements. The diagrams MUST have the following attributes: - i. All data and power points ii. Diagrams for each room/area where the network shall be deployed iii. Use different colour codes to depict fibre, ethernet and power cabling iv. All units should be in millimetres and clearly labelled v. The diagram should be in full colour vi. All items in the diagram should be to scale	

LOT 2 WILL FURTHER CONSIST OF THE FOLLOWING SECTIONS;-

- 1. Section 1 – Overhaul of Network Infrastructure (LAN).**
- 2. Section 2 – Extension of WLAN (WIFI) Coverage**
- 3. Section 3 – Extension of CCTV Coverage**
- 4. Section 4 - Migration, Management of Live Systems/Services, Project Management, Training, SLA Services and other Hardware Requirements**

SECTION 1: MANDATORY TECHNICAL REQUIREMENTS AND RESPONSIVENESS CHECKLIST FOR OVERHAUL OF NETWORK INFRASTRUCTURE (LAN)

Instructions to bidders.

- a. This part provides adequate details and criteria for the design of this technology network system with the aim of providing EASA offices with complete integrated network infrastructure. The purpose of this infrastructure is to provide a functional solution for a comprehensive technology network system including required network cabling, components and devices.
- b. The cabling infrastructure will provide facilities for connecting to a wide range of heterogeneous devices, which may include but not limited to computers, network management devices, audio/video communication devices, security and access control systems, wireless access points.
- c. The cabling system should be based on an open architecture that will provide multiple compatibility, interoperability, scalability and efficient adaptability to changes in physical layouts and relocations where a number of data points are anticipated.
- d. The proposed location for the network cabinets, data points and wireless access point in the EASA facilities will be provided.
- e. Bidders shall be expected to provide network designs as part of tender response and the final design shall be approved during the implementation of the project.
- f. The bidder shall supply all components necessary to complete the installation, configuration, testing and commissioning of the integrated Local Area Network (LAN).
- g. The bidder shall be responsible for the installation of the technology network system as required in the Tender Document
- h. Bidders should pay particular attention to this document, which specifies the desired scope and installation practice that requires strict adherence.
- i. The solution is required to support secure communication, scalability, reliability and simple network management. The entire network shall have a consistent architecture to reduce the total cost of network ownership for on-going support and maintenance, component and interface management, scalability, relocations, security, redundancy and training.
- j. The Local Area Network shall link EASA to KCAA HQs and subsequently link to other KCAA stations across the country. Static and/or dynamic IP addressing and sub netting shall be used to realize Virtual Local Area Network (VLAN) within the LANs and use of Layer 3 (routing). All active components used in the network must be able to facilitate management of the network from a central point and from remote locations.
- k. Fiber shall be used for the LAN Backbone (LAN) and for interconnecting all network Cabinets.
- l. The Bidder must provide lightening surge protectors and grounding of the active equipment.

Local Area Network.

The scope of the project shall include supply, installation, configuration, testing and commissioning of the following components:-

1. Active Equipment: Aggregation Switch, Access Switches, and Passive Equipment: Horizontal Cabling Subsystem, Fiber Backbone Cabling Systems.
2. Installation of network cabinets, Uninterruptable power supply (UPS) and powering the cabinets.
3. Connect and integrate the existing LAN to the new installed network and ensure the entire network have the same VLAN setup.
4. Currently EASA is running the Alcatel Telephony System that requires migration to the new LAN system. Special attention should be paid to the PABX cabling with an aim of maintaining the old telephony network. This will ensure uninterrupted telephony services.

TECHNICAL SPECIFICATIONS.

All Vendors MUST respond in writing against each technical requirement clearly showing technical compliance for each specification against their brochure with references. Marking compliant/non-compliant (√) or (X) will be considered INVALID and WILL NOT BE EVALUATED. **ALL THE REQUIREMENTS ARE MANDATORY**

i. General LAN Requirements

General LAN requirements		
No.	Description	Bidders' Responses and page number reference
General installation practice		
1.	The Bidder shall be required to install cabling in accordance with International Structured Cabling System and designs. Each subsystem will be implemented using F/UTP Category 6A cablings compliant with components to be deployed in accordance with ANSI/TIA/EIA-568-C2 and ISO/IEC 11801 CLASSEA standards requirements.	
2.	The new LAN cabling will generally run along the old trunking except under special circumstances to be approved by EASA. Care should be taken to ensure that the cabling in the old trunking is not interfered with during the project implementation period until the new LAN is commissioned. This will ensure continuity of network services.	
3.	All network components must be Earthed as indicated in the general specifications of this document, the local regulations in force and the manufacturer's recommendations.	
4.	All routing layout for cable paths must consider fiber optic cable with minimum radius of curvature to be supported by the existing facilities in order not to interfere with access to maintenance activities.	
5.	All cabling infrastructure should make provisions aspects for possible future extensions.	
6.	All adapters must be compatible with the transmission capacities of the equipment to which they connect.	
7.	All cables and connectors must be labelled with permanent indelible ink mark labels at destination of each and every termination point.	
8.	Horizontal and backbone cables shall be labelled at each end. The cable or its label shall be marked with its identifier.	
9.	A unique identifier shall be marked on each faceplate to identify it as connecting hardware.	
10.	The bidder shall be required to comply with the manufacturer's recommended installation practices.	
11.	The network should be capable of carrying data, voice and video. QOS should be considered as part of installation and configuration of the network.	
12.	The LAN installation shall consist of a star topology with horizontal F/UTP subsystem originating from switches and terminating with RJ45 sockets. For each data point, a patch cord of appropriate length with RJ45 connectors at both ends will be required to connect the information point to the network interface adapter.	
13.	Good cable management practice must be adhered to and proper color-coding used for easy identification.	
14.	The Main Distribution Facility (MDF) shall be located on an already identified room by the client.	
15.	The location for HDFs (Horizontal Distribution Facility) on each building floor will be located on an already identified rooms by the client.	
16.	High-speed Fiber Optic Uplink Backbone cable will be used to link building blocks and floors to the main distribution facility location.	
17.	Cables traversing between building blocks shall be through the trench that shall be 1.5meters deep and must be installed in ducts that complies with or is part of approved infrastructure plan.	
18.	Cables must be run in the trunking (s) within building wall and surface pathways. This must be galvanised metal trunking installations.	

General LAN requirements		
No.	Description	Bidders' Responses and page number reference
19.	A Galvanised Metal trunking of 150mm by 50mm dimensions with two compartments must be installed. One will be used for data cables and the other for any other utility service(power)	
20.	The LAN installation shall consist of a star topology with horizontal F/UTP subsystem originating from switches and terminating with RJ45 sockets. For each data point, a patch cord of appropriate length with RJ45 connectors at both ends will be required to connect the information point to the network interface adapter.	
21.	Good cable management practice must be adhered to and proper color-coding used for easy identification.	
	Horizontal cabling	
22.	The primary media for horizontal cabling will be 4-pair Foiled Unshielded Twisted Pair (F/UTP) that must meet or exceed ANSI/TIA/EIA-568-C2 and ISO/IEC 11801 CLASS EA standards requirements.	
23.	CAT 6A Ethernet Patch cords (Panduit CAT 6A or equivalent)	
24.	Each room to be networked shall have wall plates installed and each outlet terminated with 8-pin modular jacks (RJ-45) and shall be flash with trunking.	
25.	Each designated network interface/ port will have capacity to support at least 1GEthernet.	
26.	Cables shall be required to move through metal trunking firmly when pulled.	
27.	Cables installed between faceplates and patch panel shall not exceed recommended distance of 90meters.	
28.	Cables shall not be crushed using cable ties.	
29.	Cable conduits must not be overfilled or strained.	
30.	No distortion due to kinks, sharp bends or excessive hauling tension shall be allowed.	
31.	Cables shall be run in a manner eliminating any possibility of strain on the cable itself or on the terminations	
32.	Bending radii shall not be less than eight times the overall cable diameter.	
33.	The manufacturers hauling tension shall not be exceeded.	
34.	All cable ties and fixings shall be tightened to support the cable loom without distortion of the cable sheath.	
35.	All cables must pass through trunking and should not be seen from outside	
36.	There shall be no splicing of installed cables. Intermediate cross-connects and transition points are not allowed.	
37.	All user-area patch cords shall be at least 3-metre in length. All patch cords must be shielded F/UTP	
38.	Cabinet Patch cords being used to connect patch panel and the access switch shall be 1meter shielded F/UTP	
39.	Data and power outlets shall be flash mounted on the metal Trunking.	
40.	All user-area patch cords and cabinet patch cords will be supplied to match the total number of data outlets.	
41.	The contractor shall pull two cables for each faceplate and terminate both cables.	
42.	All power socket shall be mounted on the metal trunking.	
43.	The Contractor may combine two or more blocks to form one LAN segment to leverage on the active devices. This should be shown clearly in the proposed bidder's design.	
44.	The combined blocks LAN segment F/UTP cables shall not be more than 90M from the active equipment to the data point.	
45.	Where there is a combined blocks LAN segment, 110mm HDPE ducts shall be used to interconnects the blocks and outdoor F/UTP cables shall be used. The HDPE shall pass through a trench that is 1.5meters deep.	

General LAN requirements		
No.	Description	Bidders' Responses and page number reference
46.	Cables entry between the blocks shall be not more than 0.5M from the ground and the outer cover shall be galvanized metallic trunk.	
47.	Except for the patch cords used to connect NICs to the RJ45 sockets, all patch cords must be labelled at each extremity with soft PVC indelible marking. For all other components, the label type should be of stiff plastic PVC.	
Backbone cabling		
48.	The primary media for backbone cabling shall be fiber optic.	
49.	For Backbone cables interconnecting between buildings, telecommunication rooms, equipment rooms and entrance facilities shall be installed in star topology	
50.	Multimode fiber optic cable (62.5/125 micron) will be used.	
51.	Fibre optic cable shall have a core/cladding diameter on nominal 850nm and 1300nm optical wavelength.	
52.	The fiber optic cable shall have a minimum of eight (8) strands.	
53.	All strands must be terminated at each end of the fiber cable whether used or not.	
54.	All optical fiber components and installation practices shall meet applicable building and safety codes requirements and shall provide well organized cable installation management in accordance with the manufacturer's guidelines	
55.	Fiber optic cables running through risers must be protected by PVC conduits to protect them from interferences from other service providers.	
56.	All fiber optic backbone links will be terminated at the identified MDF room as per the physical topology design.	
57.	All fiber interfaces for uplink must use relevant transceivers.	
Patch panel requirement		
58.	All patch panels must conform to ANSI/TIA/EIA568 B.	
59.	All Patch Panels must be shielded	
60.	Patch panels must be equipped with shielded RJ45 Category 6A sockets contacts with capacity of 24 ports as needed.	
61.	Each Data Patch Panel shall be identified alphabetically from the top of the cabinet. The number of the cabinet should be used for identification on a1 to 24-way panel. e.g., A-a-01 means Block A patch panel a point no 1.	
62.	Fiber Optic patching shall be done from the floor cabinets or cabinet housing optic boxes/ panels as well as the optic electronic equipment.	
63.	Fiber Optic patch panel (ODF) shall have a sliding tray	
64.	All patch panels, including fiber optic patch panels must be rack mounted.	
65.	All patch panels must be earthed to provide electrical safety to users in future and screening to prevent electromagnetic radiations.	
66.	Fiber optic patch panels shall be used for distribution and management of fiber optic cable, Provision of fiber splicing, termination, management and storage in one unit.	
67.	Fiber optic patch panels will be connected as per the number of strands terminated at each location.	
Other assorted requirements		
68.	Power Ordinary Dual Points	British standard socket outlet Belanko S - 13A 250V~ 2 gang single pole switched - white
69.	Power USB Dual Points	British Standard socket outlets - 13 A- 250 V~ with USB charger Conform to BS 1363-2:2016 Conform to IEC 60950-1 2 gang 2 gang single pole switched USB Type-A + Type-C™ 3 A - 5 VDC - 15 W Consumption in passive mode less than 0.08 W

General LAN requirements			
No.	Description		Bidders' Responses and page number reference
70.	Face plates	86mm x 86mm shuttered faceplates shall be available in 2 port configurations with and spring shuttered doors that protect connectors from dust and debris when not in use. Faceplates shall have a sloped orientation and include label pockets that enable proper port identification. All faceplates shall accept Mini-Com® Modules for copper installations	
71.	UTP RJ45 Cat 6A TG Jack Module	The Mini-Com® Cat 6A UTP RJ45 TG Jack Module is designed to terminate 4-pair, 22-26 AWG twisted pair cable. Each module is 100% factory tested to exceed industry standard performance requirements. TG style termination eliminates the need for a termination tool. Each jack is individually serialized for traceability and is compatible with Mini-Com Modular Patch Panels and Faceplates.	
72.	Fibre	Multimode duplex jumpers OM3 LC-LC 3m	
73.	PABX Cabling	The existing Alcatel PABX network cabling should be maintained and integrated into the new network cabinets to ensure uninterrupted telephony services. Connectivity tests should be carried out to ensure functionality of the PABX system and all telephone extensions within the school.	
74.	Disposal	1. Disposal of obsolete cables, UPSs, network cabinets, metal trunkings and debris. 2. Transportation of all removed equipment to KCAA Central Stores in Mlolongo approximately 15 KMs from EASA	
All Requirements are Mandatory			

ii. Requirements for Network Switches

Requirements for network switches.			
No.	Part Number	Description	Bidders' Responses/ Data Sheet Reference
Transceivers – Quantity 54			
1.	SFP-10G-SR-S=	10GBASE-SR SFP Module, Enterprise-Class	
24 – Port access switch – Quantity 3			
2.	C9300L-24P-4X-E	Catalyst 9300L 24p PoE, Network Essentials ,4x10G Uplink	
3.	CON-SSSNT-C9300L2X	SOLN SUPP 8X5XNBD Catalyst 9300L 24p PoE, Network Essentia	
4.	C9300L-NW-E-24	C9300L Network Essentials, 24-port license	
5.	PWR-C1-BLANK	Config 1 Power Supply Blank	
6.	C9300L-STACK-BLANK	Catalyst 9300L Blank Stack Module	
7.	FAN-T2	Cisco Type 2 Fan Module	
8.	S9300LUK9-173	Cisco Catalyst 9300L XE 17.3 UNIVERSAL	
9.	PWR-C1-715WAC-P	715W AC 80+ platinum Config 1 Power Supply	
10.	C9300L-SPS-NONE	No Secondary Power Supply Selected	
11.	CAB-C15-CBN	Cabinet Jumper Power Cord, 250 VAC 13A, C14-C15 Connectors	
12.	C9300L-SSD-NONE	No SSD Card Selected	
13.	C9300L-DNA-E-24	C9300L Cisco DNA Essentials, 24-port license	

Requirements for network switches.			
No.	Part Number	Description	Bidders' Responses/ Data Sheet Reference
14.	C9300L-DNA-E-24-3Y	C9300L Cisco DNA Essentials, 24-port, 3 Year Term license	
15.	CON-SSTCM-C93LE24	SOLN SUPP SW SUBC9300L Cisco DNA Ess	
16.	NETWORK-PNP-LIC	Network Plug-n-Play Connect for zero-touch device deployment	
48 – Port access switch – Quantity 20			
1.	C9300L-48P-4X-E	Catalyst 9300L 48p PoE, Network Essentials ,4x10G Uplink	
2.	CON-SSSNT-C93004X4	SOLN SUPP 8X5XNBD Catalyst 9300L 48p P	
3.	C9300L-NW-E-48	C9300L Network Essentials, 48-port license	
4.	PWR-C1-BLANK	Config 1 Power Supply Blank	
5.	C9300L-STACK-BLANK	Catalyst 9300L Blank Stack Module	
6.	FAN-T2	Cisco Type 2 Fan Module	
7.	S9300LUK9-173	Cisco Catalyst 9300L XE 17.3 UNIVERSAL	
8.	PWR-C1-715WACP	715W AC 80+ platinum Config 1 Power Supply	
9.	C9300L-SPS-NONE	No Secondary Power Supply Selected	
10.	CAB-C15-CBN	Cabinet Jumper Power Cord, 250 VAC 13A, C14-C15 Connectors	
11.	C9300L-SSD-NONE	No SSD Card Selected	
12.	C9300L-DNA-E-48	C9300L Cisco DNA Essentials, 48-port license	
13.	C9300L-DNA-E-48-3Y	C9300L Cisco DNA Essentials, 48-port, 3 Year Term license	
14.	CON-SSTCM-C93LE48	SOLN SUPP SW SUBC9300L Cisco DNA Ess	
15.	NETWORK-PNP-LIC	Network Plug-n-Play Connect for zero-touch device deployment	
All Requirements are Mandatory			

iii. Assorted Bill of Quantities for Structured Cabling

Assorted bill of quantities for structured cabling				
No.	Item	Description	Qty	Bidders' Responses and page number reference
Fiber network				
1.	8 Core Armored MM Fiber Cable /Metres	a. DC→Hostel b. DC→Engineering Block c. DC→New ICT Lab d. DC→Maintenance Block e. Hostel→Catering→Dispensary→Swimming pool f. Note: All other cabinets should be interconnected using fibre (No UTP)	1600 Metres	
2.	48-Port Complete Fiber patch panel		20	
3.	24-Port Complete Fiber patch panel		6	
4.	Fiber Pigtailed		98	
5.	1 Metre Fiber Patch Cord/MM		56	
6.	Cat 6A UTP Cable/Boxes		108	
7.	Dual Data Points		323	
8.	Power Ordinary Dual Points		336	
9.	Power USB Dual Points		76	
10.	1 Metre Patch Cords		1108	
11.	3 Metre Patch Cords		469	
12.	48 Port UTP Patch Panel		46	
13.	24 Port UTP Patch Panel		8	
14.	1U Cable Manager		52	
15.	42U Cabinet		5	
16.	22U Cabinet		8	
17.	12U Cabinet		3	
18.	1.5 rack mount UPS		12	
19.	50 x 50 Compartment Powder Coated Metal trunking/lengths		4	
20.	100 x 50 x 2 Compartment Powder Coated Metal trunking/lengths		36	
21.	300 x 50 x 2 Compartment Powder Coated Metal trunking/lengths		626	
All Requirements are Mandatory				

iv. Civil Works for Fibre Cables

Civil works for fibre cables		
No.	Requirement	Bidders' Responses and reference
1.	Trenching from catering to dispensary to swimming pool	
2.	Installation of 900x900 manholes at catering to dispensary to swimming pool	
3.	Conduiting all the trenches at catering to dispensary to swimming pool	
All Requirements are Mandatory		

v. 1.5 KVA APC UPS – Quantity 12

1.5 KVA APC UPS – Quantity 12			
No.	Part Number	Description	Bidders' Responses and data sheet reference.
1.	Quantity Required	Twelve (12)	
2.	Make and Model	APC or equivalent	
Output			
3.	Output power capacity	900 Watts / 1.5kVA	
4.	Max Configurable Power (Watts)	900 Watts / 1.5kVA	
5.	Nominal Output Voltage	230V	
6.	Output Voltage Distortion	Less than 5 %	
7.	Output Frequency (sync to mains)	50/60 Hz +/- 3 Hz Sync to mains	
8.	Other Output Voltages	220, 240	
9.	Topology	Line interactive	
10.	Waveform type	Sine wave	
11.	Output Connections	(4) IEC 320 C13 (2) IEC Jumpers	
12.	Transfer Time	6 ms typical : 10 ms maximum	
Input			
13.	Nominal Input Voltage	230V	
14.	Input frequency	50/60 Hz +/- 3 Hz Auto-sensing	
15.	Input Connections	IEC 320 C14	
Batteries and runtime			
16.	Typical recharge time	3hour(s)	
17.	Expected Battery Life (years)	4 - 6	
Communication and management			
18.	Interface Port(s)	RJ-45 Serial, USB	
19.	Control panel	Multifunction LCD status and control console	
All Requirements are Mandatory			

SECTION 2: MANDATORY TECHNICAL REQUIREMENTS AND RESPONSIVENESS CHECKLIST FOR EXTENSION OF WLAN (WIFI) COVERAGE

EASA is looking for Virtual SmartZone NFV-based and cloud-ready WLAN controller that manages the entire wireless LAN network and enterprises ready to elevate the WLAN deployment to the next level of flexibility, resiliency and scale. The new system shall be integrated with the existing Ruckus WLAN. Several WIFI access points will also be deployed to cater for Internet signal blind spots.

All Vendors MUST respond in writing against each technical requirement clearly showing technical compliance for each specification against their brochure with references. Marking compliant/non-compliant (√) or (X) will be considered INVALID and WILL NOT BE EVALUATED.

i. Wireless Network

Wireless network				
No.	Items	Description	Qty	Bidders' Responses and reference
1.	Virtual SmartZone	Version 3.0 or newer software virtual appliance, 1 Instance, includes 1 AP license.	1	
2.	Management License	AP management license for SZ-100/vSZ 3.X/SCG200/SZ300	80	
3.	Cabling	UTP Cat 6A cables (Panduit) to be provided.	2 Boxes	
Annual support charges				
4.	Virtual SmartZone	Partner WatchDog Support - VSZ-RTU, for 3 years.	1	
5.	Access points	Partner WatchDog Support Per SZ/(v)SZ AP, 3YR.	80	
Professional services				
6.	Wireless Installation	Wireless Installation, configuration and integration.	Lot	
7.	Accessories	Accessories necessary for cabling and complete installation of the wireless system.	Lot	
All Requirements are Mandatory				

ii. Virtual SmartZone

Virtual smart zone			
No.	Item	Specifications Required	Bidder's Response and reference
1.	Number of APs Supported per controller	Up to 1,000 per controller	
2.	Number of APs Supported per cluster	Up to 3,000 per cluster	
3.	Number of Switches Supported per controller	Up to 50 per controller	
4.	Number of Switches Supported per cluster	Up to 150 per cluster	
5.	Clients per controller	Up to 25,000 per controller	
6.	Clients per cluster	Up to 60,000 per cluster	
7.	Ethernet Ports	1 vNIC	
8.	Authentication Support	802.1x, local database, Active Directory, RADIUS, LDAP	
9.	Guest Networking / Captive Portal	Yes	
10.	AP Discovery and Control	L2/L3	
11.	Management Interface	Web, SCI	
12.	Management Protocol(s)	SNMP v3	
13.	VLAN Support	Dynamic VLANs	
14.	Deployment	Private / Public Cloud	
All Requirements are Mandatory			

iii. Access Points

Access points			
No.	Item	Specifications Required	Bidder's Response and reference
1.	Quantity	Twenty-Four (24) Ruckus R750	
2.	WiFi	IEEE 802.11a/b/g/n/ac/ax	
3.	Supported Rates	<ul style="list-style-type: none"> ▪ 802.11ax: 4 to 4800 Mbps ▪ 802.11ac: 6.5 to 3467 Mbps ▪ 802.11n: 6.5 to 600 Mbps ▪ 802.11a/g: 6 to 54 Mbps ▪ 802.11b: 1 to 11 Mbps 	
4.	MIMO	<ul style="list-style-type: none"> ▪ 8x8 MU-MIMO ▪ 8x8 SU-MIMO 	
5.	Spatial Streams	<ul style="list-style-type: none"> ▪ 8 MU-MIMO ▪ 8 SU-MIMO 	
6.	Channelization	20, 40, 80MHz	
7.	Modulation	OFDMA (up to 1024-QAM)	
8.	Other Wi-Fi Features	<ul style="list-style-type: none"> ▪ WMM, Power Save, TxBF, LDPC, STBC, 802.11r/k/v/Hotspot ▪ Hotspot 2.0 ▪ Captive Portal 	
9.	Controller Platform Support	<ul style="list-style-type: none"> ▪ SmartZone ▪ ZD ▪ Standalone 	
10.	IP	IPv4, IPv6	
11.	VLAN	<ul style="list-style-type: none"> ▪ 802.1Q. ▪ BSSID-based (16 BSSIDs / radio). ▪ Port-based. ▪ Dynamic, per user based on RADIUS. 	
12.	802.1x	<ul style="list-style-type: none"> ▪ Wired & wireless. ▪ Authenticator & Supplicant. 	
13.	Tunnel	RuckusGRE, SoftGRE.	
14.	Policy Management Tools	<ul style="list-style-type: none"> ▪ Application Recognition and Control ▪ Access Control Lists. ▪ Device Fingerprinting. 	
15.	Ethernet	<ul style="list-style-type: none"> ▪ 1x 1/2.5/5 Gbps port, RJ-45. ▪ 1x 10/100/1000 Mbps port, RJ-45. 	
16.	USB	1 USB 2.0 port, Type A	
17.	Physical Size	<ul style="list-style-type: none"> ▪ 22.19 x 24.96 x 6 cm. ▪ 8.74 x 9.83 x 2.36 in. 	
18.	Weight	<ul style="list-style-type: none"> ▪ 1.53 kg. ▪ 3.37 lbs. 	
19.	Mounting	<ul style="list-style-type: none"> ▪ Wall, Acoustic ceiling, Desk. ▪ Secure Bracket (inclusive of Brackets). 	
20.	Power consumption	DC Power, PoH, uPoE (Max).	
21.	System configuration	<ul style="list-style-type: none"> ▪ 5Gbps & 1Gbps Ethernet enabled. ▪ USB Enabled (3W). ▪ Zigbee/BLE Enabled (0.5W). 	
22.	Wi-Fi Radios	<ul style="list-style-type: none"> ▪ 2.4GHz (4x4) Tx 20 dBm. ▪ 5GHz (8x8) Tx 22 dBm. 	
All Requirements are Mandatory			

SECTION 3: MANDATORY TECHNICAL REQUIREMENTS AND RESPONSIVENESS CHECKLIST FOR EXTENSION OF CCTV COVERAGE

East Africa School of Aviation (EASA) consider CCTV system a key player in property safety and security management including that of its staff and visitors. It is in this strength that the institute is in the process of upgrading its IP surveillance system by installing additional 43 No cameras to cover the already identified blind spots to enhance coverage and system efficiency. Additionally, Currently EASA has installed different vendor CCTV systems, which are Honeywell, Hikivision and Dahua (Axis). EASA wishes to integrate the various CCTV systems and set up centralized monitoring system.

The extension of CCTV system at EASA will require the following components: -

1. Network Video Recorder - NVR
2. Bullet cameras
3. Dome cameras
4. LED Monitor
5. Video Surveillance Management Software and associated hardware - VMS
6. Point to point Nano station for the main gate CCTV cameras.

All Vendors MUST respond in writing against each technical requirement clearly showing technical compliance for each specification against their brochure with references. Marking compliant/non-compliant (√) or (X) will be considered INVALID and WILL NOT BE EVALUATED.

i. Network Video Recorder- NVR Quantity – 1

Network video recorder – NVR – Quantity 1				
No.	Item	Requirement	Specifications	Bidder’s Response and reference
1.	Make and model	Recorder/server storage	128 channel 3U 4K NVR with 20TB storage. HIKIVISION DS-96128NI-I16 or equivalent. Attach colored product brochures.	
2.	Video & Audio input	IP video input	128-ch	
		Incoming/outgoing bandwidth	576 Mbps/512 Mbps	
		Incoming/outgoing bandwidth (RAID mode)	576 Mbps/512 Mbps	
		TLS outgoing bandwidth	127 Mbps, or 64 Mbps (when RAID is enabled)	
		Protocol	HIKVISION, ACTi, ARECONT, AXIS, BOSCH, BRICKCOM, CANON, HUNT, ONVIF (Version 2.5), PANASONIC, PELCO, RTSP, SAMSUNG, SONY, VIVOTEK, ZAVIO	
4.	Video & Audio output	HDMI output	Up to 2 independent HDMI outputs of 4K resolution. Resolution: 4K (4096 × 2160), 4K (3840 × 2160)/30Hz, 2K (2560 × 1440)/60Hz, 1080p (1920 × 1080)/60Hz, UXGA (1600 × 1200)/60Hz, SXGA (1280 × 1024)/60Hz, 720p (1280 × 720)/60Hz, XGA (1024 × 768)/60Hz	

Network video recorder – NVR – Quantity 1				
No.	Item	Requirement	Specifications	Bidder's Response and reference
		VGA output	1-ch. Resolution: 1080p (1920 × 1080)/60Hz, UXGA (1600 × 1200)/60Hz, SXGA (1280 × 1024)/60Hz, 720p (1280 × 720)/60Hz, XGA (1024 × 768)/60Hz	
		LCD output (optional)	At least 7-inch LCD	
		Audio output	1-ch. RCA (2.0 Vp-p, 1 KΩ)	
5.	Video & Audio decoding	Decoding format	H.265, H.265+, H.264, H.264+, MPEG4, MJPEG	
		Video resolution	12 MP/8 MP/7 MP/6 MP/5 MP/4 MP/3 MP/1080p/UXGA/720p/VGA/4CIF/DCIF/2CIF/CIF/QCIF	
		Synchronous playback	Up to 16 channels	
		Capability	3-ch@12 MP (30fps), 5-ch@8 MP (30fps), 6-ch@6 MP (30fps), 10-ch@4 MP (30fps), 20-ch@1080p (30 fps)	
6.	HDD	Interface	16 hot-plug SATA interfaces	
		Capacity	Up to 10 TB for each HDD	
		Storage extension	1 × eSATA interface, 2 × mini SAS interface (optional)	
7.	RAID	RAID Type	RAID0, RAID1, RAID5, RAID 6, and RAID10	
8.	Network management	Protocol	IPv6, HTTPS, UPnP, SNMP, NTP, SADP, SMTP, NFS, iSCSI, PPPoE, DDNS	
		Network interface	4, RJ45 10M/100M/1000M self-adaptive Ethernet interface	
9.	External interface	Two-way audio input	1-ch, RCA (2.0 Vp-p, 1 KΩ)	
		Serial port	RS-232; RS-485; Keyboard	
		USB interface	Front Panel: 2 × USB 2.0; Rear Panel: 2 × USB 3.0	
		Alarm input/output		
		Extension board (optional)	Supports extension board with four 10M/100M/1000M optical interfaces (1.25 Gbps SFP module), eight RS-485 interfaces, and alarm interface of 32 alarm inputs and 16 alarm outputs.	
10.	General	Power supply	110 to 250 VACS, 50 to 60Hz, 5 A	
		Fan	Dual ball bearing fan	
		Consumption (without HDD)	≤ 145W	
		Working temperature	0 °C to + 60 °C	
		Working humidity	10% to 90%	
		Dimension (W × D × H)	443 × 495 × 147 mm	
		Weight (without HDD)	≤ 16 kg (35.3 lb)	

All Requirements are Mandatory.

ii. Bullet Network Camera - Quantity 20

No.	Requirement	Specifications	Bidder's Response and reference
1.	Make and model	MP4 IP Network camera - HIKIVISION DS-2CD2T46G2-21/41 or equivalent. Attach colored product brochures.	
2.	Image Sensor	1/3" Progressive Scan CMOS	
3.	Min. Illumination	Color: 0.003 Lux @ (F1.4, AGC ON), B/W: 0 Lux with IR	
4.	Shutter Speed	1/3 s to 1/100,000 s	
5.	Day & Night	IR cut filter	
6.	Angle Adjustment	Pan: 0° to 360°, tilt: 0° to 90°, rotate: 0° to 360°	
7.	Slow Shutter	Yes	
8.	P/N	P/N	
9.	Wide Dynamic Range	120 dB	
Lens			
10.	Lens Type	Fixed focal lens, 2.8, 4.00 mm optional	
11.	Focal Length & FOV	2.8 mm, horizontal FOV 104°, vertical FOV 55°, diagonal FOV 125° 4 mm, horizontal FOV 83°, vertical FOV 46°, diagonal FOV 99°	
12.	Aperture	F1.4	
13.	Lens Mount	M12	
14.	Iris Type	Fixed	
DORI			
15.	DORI	2.8 mm: D: 60.0 m, O: 23.8 m, R: 12.0 m, I: 6.0 m 4 mm: D: 80.0 m, O: 31.7 m, R: 16.0 m, I: 8.0 m	
Illuminator			
16.	IR Range	Up to 60 m	
17.	IR Wavelength	850 nm	
18.	Smart Supplement Light	Yes	
19.	Supplement Light Type	IR	
Video			
20.	Max. Resolution	2688 × 1520	
21.	Main Stream	50 Hz: 25 fps (2688 × 1520, 1920 × 1080, 1280 × 720)	
		60 Hz: 30 fps (2688 × 1520, 1920 × 1080, 1280 × 720)	
22.	Sub-Stream	50 Hz: 25 fps (640 × 480, 640 × 360)	
		60 Hz: 30 fps (640 × 480, 640 × 360)	
23.	Third Stream	50 Hz: 10 fps (1920 × 1080, 1280 × 720, 640 × 480, 640 × 360)	
		60 Hz: 10 fps (1920 × 1080, 1280 × 720, 640 × 480, 640 × 360)	
		Third stream supported through special configurations.	
24.	Video Compression	Main stream: H.265/H.264/H.265+/H.264+ Sub-stream: H.265/H.264/MJPEG	
		Third stream: H.265/H.264	
		Third stream supported through special configurations.	
25.	Video Bit Rate	32 Kbps to 8 Mbps	
26.	H.264 Type	Baseline Profile/Main Profile/High Profile	
27.	H.265 Type	Main Profile	
28.	H.264+	Main stream supports	

No.	Requirement	Specifications	Bidder's Response and reference
29.	H.265+	Main stream supports	
30.	Bit Rate Control	CBR/VBR	
31.	Scalable Video Coding	H.264 and H.265 encoding	
32.	Region of Interest (ROI)	Up to 1 region for main stream and sub-stream	
Network			
33.	Simultaneous Live View	6 channels	
34.	API	PROFILE S, PROFILE G, PROFILE T, ISAPI, SDK	
35.	Protocols	TCP/IP, ICMP, HTTP, HTTPS, FTP, DHCP, DNS, DDNS, RTP, RTSP, NTP, UPnP, SMTP, IGMP, 802.1X, QoS, IPv4, IPv6, UDP, Bonjour, SSL/TLS, PPPoE, SNMP, ARP, WebSocket,	
36.	User/Host	35 users. 4 user levels	
37.	Security	Password protection, complicated password, HTTPS encryption, IP address filter, Security Audit Log, basic and digest authentication for HTTP/HTTPS, TLS 1.1/1.2, WSSE and digest authentication for Open Network Video Interface	
38.	Network Storage	MicroSD/SDHC/SDXC card (256 GB) local storage, and NAS (NFS, SMB/CIFS), auto network replenishment (ANR)	
		Together with high-end memory card, memory card encryption and health detection are supported	
39.	Client	Supports Genetec, Milestone Wisenet, hikvision, axxon etc.	
40.	Web Browser	Plug-in free live view: Chrome 57.0+, Firefox 52.0+ Local service: Chrome 57.0+, Firefox 52.0+	
Image			
41.	SNR	≥ 52 dB	
42.	Day/Night Switch	Day, Night, Auto, Schedule	
43.	Image Enhancement	BLC, HLC, 3D DNR	
44.	Image Parameters Switch	Yes	
45.	Image Settings	Rotate mode, saturation, brightness, contrast, sharpness, gain, white balance adjustable by client software or web browser	
Interface			
46.	On-Board Storage	Built-in micro-SD slot, up to 256 GB	
47.	Reset Key	Yes	
48.	Ethernet Interface	1 RJ45 10 M/100 M self-adaptive Ethernet port	
Event			
49.	Basic Event	Motion detection (human and vehicle targets classification), video tampering alarm, exception	
50.	Smart Event	Scene change detection	
Deep Learning Function			
51.	Face Capture	Yes	
52.	Perimeter Protection	Line crossing detection, intrusion detection, region entrance detection, region exiting detection	

All the Requirements are Mandatory

iii. Dome Network Camera - Quantity 21

No.	Requirement	Specifications	Bidder's Response and reference
1.	Make and model	4MP IP Network camera - HIKIVISION DS-2CD2146G2-I(SU) or equivalent. Attach colored product brochures.	
2.	Image Sensor	1/3" Progressive Scan CMOS	
3.	Min. Illumination	Color: 0.003 Lux @ (F1.4, AGC ON), B/W: 0 Lux with IR	
4.	Shutter Speed	1/3 s to 1/100,000 s	
5.	Day & Night	IR cut filter	
6.	Angle Adjustment	Pan: 0° to 355°, tilt: 0° to 75°, rotate: 0° to 355°	
7.	Slow Shutter	Yes	
8.	P/N	P/N	
9.	Wide Dynamic Range	120 dB	
Lens			
10.	Focal Length & FOV	2.8 mm, horizontal FOV 105°, vertical FOV 57°, diagonal FOV 125° 4 mm, horizontal FOV 85°, vertical FOV 47°, diagonal FOV 100°	
11.	Lens Type	Fixed focal lens, 2.8, and 4mm optional	
12.	Aperture	F1.4	
13.	Lens Mount	M12	
14.	Iris Type	Fixed	
DORI			
15.	DORI	2.8 mm: D: 60.0 m, O: 23.8 m, R: 12.0 m, I: 6.0 m 4 mm: D: 80.0 m, O: 31.7 m, R: 16.0 m, I: 8.0 m	
Illuminator			
16.	IR Range	30 m	
17.	IR Wavelength	855 nm	
18.	Smart Supplement Light	Yes	
19.	Supplement Light Type	IR	
Video			
20.	Max. Resolution	2688 × 1520	
21.	Main Stream	50 Hz: 25 fps (2688 × 1520, 1920 × 1080, 1280 × 720)	
		60 Hz: 30 fps (2688 × 1520, 1920 × 1080, 1280 × 720)	
22.	Sub-Stream	50 Hz: 25 fps (640 × 480, 640 × 360)	
		60 Hz: 30 fps (640 × 480, 640 × 360)	
23.	Third Stream	50 Hz: 10 fps (1920 × 1080, 1280 × 720, 640 × 480, 640 × 360)	
		60 Hz: 10 fps (1920 × 1080, 1280 × 720, 640 × 480, 640 × 360)	
		Third stream supported through special configurations.	
		Main stream: H.265/H.264/H.265+/H.264+ Sub-stream: H.265/H.264/MJPEG	
		Third stream: H.265/H.264	
24.	Video Compression	Third stream supported through special configurations.	
25.	Video Bit Rate	32 Kbps to 8 Mbps	
26.	H.264 Type	Baseline Profile/Main Profile/High Profile	
27.	H.265 Type	Main Profile	
28.	H.264+	Main stream supports	
29.	H.265+	Main stream supports	

No.	Requirement	Specifications	Bidder's Response and reference
30.	Bit Rate Control	CBR/VBR	
31.	Scalable Video Coding (SVC)	H.264 and H.265 encoding	
32.	Region of Interest (ROI)	1 region for main stream and sub-stream	
	Audio		
33.	Environment Noise Filtering	-S: Yes	
34.	Audio Sampling Rate	-S: 8 kHz/16 kHz/32 kHz/44.1 kHz/48 kHz	
35.	Audio Compression	-S: G.711ulaw/G.711alaw/G.722.1/G.726/MP2L2/PCM/MP3/AAC	
36.	Audio Bit Rate	-S: 64 Kbps (G.711ulaw/G.711alaw)/16 Kbps (G.722.1)/16 Kbps (G.726)/32 to 192 Kbps (MP2L2)/8 to 320 Kbps (MP3)/16 to 64 Kbps (AAC)	
	Network		
37.	Simultaneous Live View	6 channels	
38.	API	PROFILE S, PROFILE G, PROFILE T, ISAPI, SDK	
39.		TCP/IP, ICMP, HTTP, HTTPS, FTP, DHCP, DNS, DDNS, RTP, RTSP, NTP, UPnP, SMTP, IGMP, 802.1X, QoS, IPv4, IPv6, UDP, Bonjour, SSL/TLS, PPPoE, SNMP, ARP, WebSocket,	
40.	Protocols	WebSocket	
41.	User/Host	35 users. 4 user levels	
42.	Security	Password protection, complicated password, HTTPS encryption, IP address filter, Security Audit Log, basic and digest authentication for HTTP/HTTPS, TLS 1.1/1.2, WSSE and digest authentication for Open Network Video Interface	
43.	Network Storage	MicroSD/SDHC/SDXC card (256 GB) local storage, and NAS (NFS, SMB/CIFS), auto network replenishment (ANR) Together with high-end memory card, memory card encryption and health detection are supported	
44.	Client	Supports Genetec, Milestone Wisenet, hikvision, axxon etc.	
45.	Web Browser	Plug-in free live view: Chrome 57.0+, Firefox 52.0+ Local service: Chrome 57.0+, Firefox 52.0+	
	Image		
46.	SNR	≥ 52 dB	
47.	Day/Night Switch	Day, Night, Auto, Schedule	
48.	Image Enhancement	BLC, HLC, 3D DNR	
49.	Image Parameters Switch	Yes	
50.	Image Settings	Rotate mode, saturation, brightness, contrast, sharpness, gain, white balance adjustable by client software or web browser	
	Interface		
51.	Alarm	-S: 1 input, 1 output (max. 12-14 VDC, 30 mA)	
52.	Audio	-S: 1 input (line in), two-core terminal block, max. input amplitude: 3.3 Vpp, input impedance: 4.7 KΩ, interface type: non-equilibrium; 1 output (line out), two-core terminal block, max. output amplitude: 3.3 Vpp, output	

No.	Requirement	Specifications	Bidder's Response and reference
		impedance: 100 Ω , interface type: non-equilibrium	
53.	Built-in Microphone	-U: Yes	
54.	On-Board Storage	Built-in memory card slot, support microSD/SDHC/SDXC card, up to 256 GB	
55.	Reset Key	Yes	
56.	Ethernet Interface	1 RJ45 10 M/100 M self-adaptive Ethernet port	
	Event		
57.	Basic Event	Motion detection (human and vehicle targets classification), video tampering alarm, exception	
58.	Smart Event	Scene change detection	
	Deep Learning Function		
59.	Face Capture	Yes	
60.	Perimeter Protection	Line crossing detection, intrusion detection, region entrance detection, region exiting detection	
All Requirements are Mandatory			

iv. LED Monitor – Quantity 1

	Requirement	Specifications	Bidder's Response
1.	Screen Size	At least 62 Inch QLED Smart Screen	
2.	Make and Model	<ul style="list-style-type: none"> ▪ Samsung or equivalent. ▪ Make and Model to be clearly specified ▪ Product datasheets to be provided 	
3.	Layout	Flat	
4.	Resolution	ULTRA HD(4K)	
5.	Backlight	QLED	
6.	LAN Support	Built-In	
7.	Wi-Fi Support	Built-In	
8.	Other Supported Interface	<ul style="list-style-type: none"> ▪ Mira Cast ▪ Mobile HD Link ▪ Wi-Di ▪ Wi-Fi Direct 	
9.	Ports	<ul style="list-style-type: none"> ▪ HDMI - 3 ▪ USB – 3 ▪ Component and AV 	
10.	OS	NetCast 4.5	
11.	Processor	LM 14	
12.	Other Requirements	<ul style="list-style-type: none"> ▪ Remote Control ▪ Built-in micropixel control ▪ Resolution Upscaler 	
13.	Multi-display mode	<ul style="list-style-type: none"> ▪ The smart screens should be mounted next to each other. ▪ They should be configured such that they are displaying the same content. This configuration should be flexible to remove easily on need basis. 	
14.	Service Requirements	<ul style="list-style-type: none"> ▪ Installation and mounting of the Screens ▪ The mountings and all cabling should be in-wall trunked and professionally installed 	
15.	Warranty	Three (3) year Warranty	
All Requirements are Mandatory			

v. Specifications for Point to point Nano station for the main gate CCTV cameras.

The Nano station will be used at the main gate to relay CCTV images to the main server since there is no internet connectivity at the main gate.

Point-to-Point Nano station technical specifications.			
No	Requirement	specifications	Bidders response and reference
1.	Make and model	Ubiquiti M5 NANO Station or equivalent – attach colored product brochures.	
2.	Dimensions	295 x 31 x 81 mm	
3.	Weight	410 g	
4.	Power Supply (PoE)	24V, 0.5A	
5.	Max. Power Consumption	8.5W	
6.	Power Method	Passive PoE (Pairs 4, 5+; 7, 8 Return)	
7.	Operating Frequency	5170-5875 MHz	
8.	Gain	14.6-16.1 dBi	
9.	Networking Interface	(2) 10/100 Ethernet Ports	
10.	Processor Specs	Atheros MIPS 74Kc, 560 MHz	
11.	Memory	64 MB DDR2, 8 MB Flash	
12.	Frequency	5 GHz	
13.	Cross-pol Isolation	22 dB Minimum	
14.	Max. VSWR	1.6:1	
15.	Beamwidth	44° (H-pol) / 41° (V-pol) / 15° (Elevation)	
16.	Polarization	Dual Linear	
17.	Enclosure	Outdoor UV Stabilized Plastic	
18.	Mounting	Pole-Mount (Kit Included)	
19.	Operating Temperature	-30 to 75° C (-22 to 167° F)	
20.	Operating Humidity	5 to 95% Noncondensing	
21.	Wireless Approvals	FCC Part 15.247, IC RS210, CE	
22.	RoHS Compliance	Yes	
23.	Shock & Vibration	ETSI300-019-1.4	
24.	Output power	27 dBm	
All the requirements are Mandatory			

vi. Video Management Software and Hardware

Currently EASA has installed different vendor CCTV systems, which include Honeywell, Hikivision and Dahua (Axis). EASA wishes to integrate the CCTV systems and set up centralized monitoring system with the following scope: -

1. Honeywell – 25 cameras 1 NVR
2. Hikivision – 35 cameras 2 NVRs
3. Dahua (Axis) – 22 cameras 1 NVR

The scope will also include 1 NVR and 43 cameras proposed in this project. The total number of cameras will therefore be 125 and 5 NVRs. The VMS should use a software that is able to obtain and consolidate live feeds from the various cameras already installed and read, rewind and review recorded footage from the various NVRs.

Video Management Software and Hardware			
No.	Item	Description	Bidders' Responses and reference
1.	VMS make and model	Milestone HE1000R-128TB Husky IVO 1000 WS19 or equivalent. Attach product brochure.	
2.	Throughput	Up to 1080 Mbit/s	
3.	Local storage	At least 128 TB on at least 8 disk bays	
4.	Form factor	Rack mount 2U	
5.	RAM	At least 16GB DDR4	
6.	OS	At least Windows Server 2019 IoT Essentials	
7.	VMS/OS Drive	2 x 240GB (RAID 1), M.2 SSDs	
8.	Network interface	4 x 1 GbE (RJ45)	
9.	RAID Controller & Support	PERC H730P with Cache & Battery & Flash backup RAID 0,1,5,6,10,50,60 RAID 5,6,10	
10.	Channels	At least 150 with video motion detection recording	
11.	Video framerate	Should have a video framerate evaluation algorithm that facilitates motion detection.	
12.	Centralized system management	Should allow the system admin to view video from different locations and manage all of their respective recorders and cameras from one location. The Centralized management should allow the system admin to push configuration, firmware updates and device settings to all video recorders and cameras.	
13.	Scalability	The VMS should be able to support a very large, or even unlimited, number of recording devices and IP cameras.	
14.	Health monitoring and alerts	The VMS should offer a robust system health-monitoring feature that ensures all connected cameras and recorders are in proper working order. It should have alerts on faults like hard drive failure or camera disconnections.	
15.	Customizable user management	The VMS should allow the ability to control system access, limit who access the system, how frequently and what those users can see. Should be able to track user activities and support LDAP integration.	
16.	Support for third-party products	The VMS should support a mix of IP cameras and access control system from different manufacturers and provide a path forward by supporting the integration of third-party products.	
17.	Bandwidth management features	The VMS should provide control over the amount of bandwidth uploaded to and from the various NVRs or servers. This feature should allow regulation of network traffic and minimize bandwidth congestion.	
18.	Recording flexibility	The VMS should provide recording flexibility, which allows selectively record on motion, set maximum retention periods, or only record HD video on specific alarms.	
19.	Integration	Integration with running NVRS	
20.	Testing	Testing to confirm functionality	
All Requirements are Mandatory			

SECTION 4: MANDATORY TECHNICAL REQUIREMENTS AND RESPONSIVENESS CHECKLIST FOR MIGRATION, MANAGEMENT OF LIVE SYSTEMS/SERVICES, PROJECT MANAGEMENT, TRAINING, SLA SERVICES AND OTHER REQUIREMENTS

All Vendors MUST respond in writing against each technical requirement clearly showing technical compliance for each specification against their brochure with references. Marking compliant/non-compliant (√) or (X) will be considered INVALID and WILL NOT BE EVALUATED.

i. Migration and Management of LIVE EASA Network Infrastructure Systems and Services

1. Minimal interruptions are expected during the overhaul of the entire LAN and extension of WLAN and CCTV coverage.
2. LAN overhaul should be carried out with no interruption to the operating environment.
3. The bidder is expected to install the new LAN before completely removing the old LAN to ensure continuity of services.
4. The extension of WIFI and CCTV should be carried out with no interruption to the operating environment.

Migration and Management of LIVE EASA Network Infrastructure systems and Services		
No.	Requirements	Bidder's Response and reference
1.	Work on the new LAN first before migrating the network services.	
2.	LAN overhaul should be carried out with no interruption to the operating environment	
3.	The bidder is expected to install the new LAN before completely removing the old LAN to ensure continuity of services	
4.	The extension of WIFI and CCTV should be carried out with no interruption to the operating environment.	
5.	The bidder should provide a practical proposal of how they shall ensure that the operations in offices where LAN will traverse will remain operational and unencumbered during the overhaul of the LAN.	
6.	Given that the network services are in use, the bidder should provide a practical proposal on how they shall ensure network service provision whilst deploying the new network.	
All Requirements are Mandatory		

ii. Project Management

Project management		
No.	Requirements	Bidder's Response and reference
6.	A detailed technical proposal entailing the following: - a. The bidder's understanding of the EASA network infrastructure problem and a narrative of the solution. a. As per the information provided in the technical mandatory documentation, details of all the proposed staff to work on the solution.	
7.	Mandatory letter to KCAA providing assurance that the project will be completed in six (6) months after contract activation. The actual implementation of the new network infrastructure after the equipment and devices have been delivered should last less than four (4) weeks.	
8.	A Comprehensive Project Implementation Plan to be attached.	
9.	Ten percent (10%) performance guarantee to be provided on after contract signing.	
10.	Bidder to provide their methodology for quality assurance on the following aspects of the entire project: - a. Overhaul of EASA LAN infrastructure b. Extension of EASA WLAN (WiFi) coverage c. Extension of EASA CCTV coverage d. Disposal of obsolete items, migration of equipment and data, technical training, and knowledge transfer e. Migration of existing equipment	
All Requirements are Mandatory		

iii. Training and Knowledge Transfer

Training and Knowledge Transfer		
No.	Specifications Required	Bidder's Response and reference
1.	<p>Boot camp training for Cisco Certified Network Associate (200-301 CCNA - Extended) for four (4) ICT staff. The training should entail: -</p> <ul style="list-style-type: none"> a. The expected delivery Method is Instructor-LED. b. Training Duration: Eight (8) days. c. The training MUST be conducted by a CNNA Internationally recognized/accredited institution with instructors, and on-site labs. d. The training MUST be conducted in another city outside Nairobi to offer participants ample training time outside the office. e. Bidder MUST include all costs for the training and DSA based on purchaser's standard rate. These costs include but not limited to transport and subsistence allowance. f. All training materials, exam revision kits, Certification and exam costs should be included. 	
2.	On site knowledge and skills transfer for network infrastructure, CCTV and WIFI systems.	
All Requirements are Mandatory		

iv. Service Level Agreement – Networks

Service Level Agreement - Networks			
No.	Item	Requirement	Bidder's Response and reference
1.	Maintenance and Support Term	The maintenance and support period is three (3) years.	
2.	Handholding	An undertaking that the vendor will provide support and maintenance of the new LAN infrastructure for a period of six months from the date of issuance of completion certificate	
3.	Active devices to be maintained and supported	<p>The active devices and all their sub-components includes but it is not limited to: -</p> <ul style="list-style-type: none"> a. CISCO switches b. Wireless LAN c. CCTV system d. Any other network infrastructure component 	
4.	Passive Devices/Equipment to be maintained and supported	<ul style="list-style-type: none"> a. Server racks b. Structured cabling (Ethernet) c. Cable management d. Dual power connections for all supported equipment 	
5.	Preventive Maintenance	<ul style="list-style-type: none"> a. Health checks for all active and passive devices/equipment b. Firmware and software upgrades as applicable c. Equipment/devices cleaning to remove dust and residue accumulation d. Testing of equipment and devices e. Review of logs and alerts for equipment where applicable f. Check for any safety hazards g. Inspection of equipment and removal of zombie devices and loose cabling h. Check any presence of corrosion, dust/residue accumulations, dripping water, unusual equipment noises etc 	

Service Level Agreement - Networks			
No.	Item	Requirement	Bidder's Response and reference
		<ul style="list-style-type: none"> i. Inspect overall cleanliness, temperature levels, ventilation obstructions and access hindrances j. Sign checklists for each device/item k. The required preventive maintenance duration is four working days 	
6.	Corrective Maintenance	To be undertaken immediately a maintenance component fails. Where an item requires a replacement, KCAA shall procure the parts of maintenance components. Where downtime is required, this shall be arranged with the KCAA systems administration team for approval prior to the required downtime.	
7.	Outage Severity Levels and Required Response Times	<ul style="list-style-type: none"> a. Severity One/Red: KCAA is unable to do their business as a result of complete or partial system failure. This has a major impact on the KCAA's business operations. <u>Response:</u> The vendor should respond within one (1) hour. A resolution or a workaround should be provided within two (2) hours. b. Severity Two/Orange: The problem has high visibility and impacts on the way KCAA does business. The network service is disrupted but not halted. The system performance may be degraded, or functions limited. <u>Response:</u> The vendor should respond within three (3) hours. A resolution or a workaround should be provided within twelve (12) hours. c. Severity Three/Green: A single component or several components are affected with or without a work around. The problem may affect KCAA's efficiency but is limited in visibility and does not prevent work from being completed. <u>Response:</u> The vendor should respond within twelve (12) hours. A resolution or a workaround should be provided within seventy-two (72) hours. 	
8.	Fault Logging Procedure and Reporting	<ul style="list-style-type: none"> a. The vendor to provide a support service desk email and a telephone number manned 24/7 for logging faults and a fault should be allocated a reference number for ease of tracking. b. Response to faults logs shall be undertaken as per the response times based on severity levels. c. Once a red or orange level fault is resolved, a report should be provided entailing the following: - <ul style="list-style-type: none"> iv. The root cause analysis v. The measures taken to resolve it vi. The measures taken to ensure it does not recur 	
9.	Escalations	The vendor shall provide two escalation levels after a fault is reported and left unattended. Phone numbers and email addresses of the escalation levels shall be required. The levels are as follows: -	

Service Level Agreement - Networks			
No.	Item	Requirement	Bidder's Response and reference
		<ul style="list-style-type: none"> a. Level 0 – Normal helpdesk reporting after a fault. b. Level 1 – Technical manager or service provision manager after the response times for resolution are not met. c. Level 2 – The CEO after the required response times are not met after escalating to level 2. 	
10.	Maintenance and Support Services	<ul style="list-style-type: none"> a. Ensuring a stable and secure network infrastructure system at all times. b. Maintenance and support should include Cisco equipment and software. c. Consultation for guidance on complex procedures and processes in configuration and integration of the Software Defined Network Solution. d. Assistance in configuration of the Solution in case of failure of any part of the System. e. Configuration of the Solution to optimize performance. f. Installation and Configuration of new hardware accessories when KCAA acquires them. g. Support and assistance on matters concerning security upgrades and any Service Pack installations. h. Bugs and Errors resolution as far as the Cisco software Defined Network is concerned. i. Receive, classify, log and track all reported issues and provide case updates until the issues is conclusively resolved. j. Provide urgent security alerts on the version deployed by the client. k. Troubleshooting and provide workarounds assistance where existing system cannot perform some of the tasks. l. Installation and configuration advice to KCAA ICT technical staff. m. Answering questions and providing a reasonable level of guidance to KCAA about the Cisco switches and Software Defined Network. n. Provide trained Technical Support personnel to handle inquiries and problems. o. Provide documentation updates and major system releases information. p. Provide pro-active maintenance release announcements sent to customer directly. q. Participate in failover and failback tests for the KCAA remote disaster recovery site. 	
11.	Infrastructure Upgrades	<p>Occasionally the Authority will make plans for replacement of the infrastructure. The vendor will be required to: -</p> <ul style="list-style-type: none"> a. Make recommendations for infrastructure (switches, Network Access Points) upgrades to KCAA. 	

Service Level Agreement - Networks			
No.	Item	Requirement	Bidder's Response and reference
		b. Undertaking infrastructure upgrades as requested by KCAA.	
12.	SLA Costs	All costs pertaining to the preventive maintenance shall be borne by the vendor. These include: - a. Materials required for the preventive maintenance e.g. cleaning agents etc. b. All equipment required for the SLA like blowers, drills, brushes et al. c. Costs of facilitation and transportation of vendor's staff and equipment to the site. d. Any site access related costs charged by KAA or any other Government Agency.	
13.	SLA Payments	Payments pertaining the three-year SLA shall be paid semi-annually in arrears, invoicing and provision of SLA (maintenance and support) reports applicable for the payment period.	
14.	Sample SLA	The vendor shall provide a sample SLA that meets all the above provisions for adoption in the contract.	
All Requirements are Mandatory			

v. Other hardware requirements for LOT 2

Two laptop computers and two tablet computers will be required for network management and monitoring.

1. Laptop computers – Quantity 3

Laptop computers specifications – Quantity 3			
NOTE: ALL THE REQUIREMENTS ARE MANDATORY			
	Item	Specifications Required	Bidder's Response
1.	Make and Model	Lenovo TB 15-ITL OR Equivalent laptop	
2.	Brochure	Bidders MUST provide/attach a product brochure/datasheet/ catalogue of the laptop they are providing	
3.	Processor	11th Generation Intel® Core™,i7-1165G7 (4 Core, 12M Cache, base 2.8 GHz, up to 4.7 GHz)	
4.	Memory	8 GB, 1X8 GB 3200MHz DDR4 Non-ECC	
5.	Storage	512 GB PCIe NVMe Class 35 Solid State Drive(SSD)	
6.	Operating System	Microsoft Windows 10 Pro 64 Bit Installed with License	
7.	Battery	3 Cell 45Whr,65W	
8.	Display	15.6" FHD TN,720p HD	
9.	Mouse	3 Button wireless Mouse - Same Brand as the Laptop	
10.	Mouse Pad	Branded Mouse Pad with Gel Wrist Rest	
11.	Graphics	Intel® Iris® Xe graphics for i7-1165G7 processor	
12.	Power Adapter	220-240V Smart 65 W External AC power adapter	
13.	Network and Wireless	RJ-45 Ethernet port. Intel Dual Band Wi-Fi 6 AX201 2x2 802.11ax 160MHz + Bluetooth 5.1	
14.	Webcam	720p at 30 fps HD camera, single integrated microphone	

Laptop computers specifications – Quantity 3**NOTE: ALL THE REQUIREMENTS ARE MANDATORY**

	Item	Specifications Required	Bidder's Response
		720p at 30 fps HD + IR camera, dual-array microphone	
15.	Keyboard	Single Pointing Non-Backlit Keyboard, US English, 10 Key Numpad	
16.	Ports/slots	<ul style="list-style-type: none"> ▪ Thunderbolt™ 4 ▪ USB-C 3.2 Gen 2 (DP/PD) ▪ 2 x USB-A 3.0 Gen 1 (1 always on) ▪ HDMI ▪ RJ45 ▪ 4-in-1 card reader (SD/SDHC/SDXC/MMC) ▪ Headphone / mic combo ▪ Kensington NanoSaver™ lock slot 	
17.	Security Lock	At least 1.5 Meters 4-Digit Password Security Laptop Lock Compatiblewith Kensington NanoSaver™ lock slot OR Equivalent	
18.	Bag	Executive Genuine labelled Leather Laptop Backpack Bag - Same Brand as the Laptop	
19.	Warranty	1 Year Warranty. To protect warranty, equipment MUST be for EMEA region sourced through the local authorized distributor (Rendington, Mitsumi, Westcon, Niti etc) channels (Evidence required showing the details of distributor the equipment were sourced to be accepted). Equipment to be delivered with original manufacturer packaging untampered with. Warranty for each equipment will be confirmed from the manufacturers website and all equipment not meeting warranty requirement or whose packaging is tampered will not be accepted.	
20.	Delivery Period	8 Weeks	

PART 4: PRICE SCHEDULE

No	Item description	Quantity	Price per unit	Total price
Lot 1				
1.	Modernization/Remodeling of the data center.	Lot		
2.	Installation of Clean power for the ICT laboratory	Lot		
3.	Training	lot		
4.	SLA	lot		
5.	Other requirements under lot 1	Lot		
Lot 2				
1.	Overhaul of Network Infrastructure - LAN	Lot		
2.	Extension of WLAN (WIFI) Coverage	Lot		
3.	Extension of CCTV Coverage	Lot		
4.	Training	Lot		
5.	SLA	Lot		
6.	Other requirements under Lot 2	Lot		

b) Financial Evaluation

The overall lowest evaluated bidder (**Lot 1 and 2 combined**) will be recommended for award of contract taking into account the general notes on financial evaluation and post-qualification/due diligence process that the Authority will carry out.

c) Due diligence

The Authority will carry out due diligence. This will entail visiting the clients provided by the bidder where it has installed and operationalized a datacentre and LAN. The visit will be to among others to view and asses satisfactorily the projects stated in comparison with the specifications given for KCAA's proposed datacentre and LAN.

FINANCIAL EVALUATION - NOTES

The winning bidder will be the lowest evaluated bidder (combined for lo1 and 2) among those who will have passed the technical evaluation as outlined above (a & b) except where other conditions are not met as specified in the tender document.

Post qualification and Contract ward (ITT 39), more specifically,

- a) In case the tender was subject to post-qualification, the contract shall be awarded to the lowest evaluated tenderer, subject to confirmation of pre-qualification data, if so required.
- b) In case the tender was not subject to post-qualification, the tender that has been determined to be the lowest evaluated tenderer shall be considered for contract award, subject to meeting each of the following conditions.
 - i. The Tenderer shall demonstrate that it has access to, or has available, liquid assets, unencumbered real assets, lines of credit, and other financial means (independent of any contractual advance payment) sufficient to meet the construction cash flow of Kenya Shillings.
 - ii. Minimum average annual construction turnover of Kenya Shillings_____ [*insert amount*], equivalent calculated as total certified payments received for contracts in progress and/ or completed within the last_ [*insert of year*] years.
 - iii. At least_____ (*insert number*) of contract(s) of a similar nature executed within Kenya, or the East African Community or abroad, that have been satisfactorily and substantially completed as a prime contractor, or joint venture member or sub-contractor each of minimum value Kenya shillings _____ equivalent.
 - iv. Contractor's Representative and Key Personnel, which are specified as _____

- v. Contractors' key equipment listed on the table "Contractor's Equipment" below and more specifically
listed as [*specify requirements for each lot as applicable*]

a) Other conditions depending on their seriousness.

i. History of non-performing contracts:

Tenderer and each member of JV in case the Tenderer is a JV, shall demonstrate that Non-performance of a contract did not occur because of the default of the Tenderer, or the member of a JV in the last

____(*specify years*). The required information shall be furnished in the appropriate form.

ii. Pending Litigation

Financial position and prospective long-term profitability of the Single Tenderer, and in the case the Tenderer is a JV, of each member of the JV, shall remain sound according to criteria established with respect to Financial Capability under Paragraph (i) above if all pending litigation will be resolved against the Tenderer. Tenderer shall provide information on pending litigations in the appropriate form.

iii. Litigation History

There shall be no consistent history of court/arbitral award decisions against the Tenderer, in the last

_____(*specify years*). All parties to the contract shall furnish the information in the appropriate form about any litigation or arbitration resulting from contracts completed or on going under its execution over the years specified. A consistent history of awards against the Tenderer or any member of a JV may result in rejection of the tender.

NOTE: In the case of a Tenderer who offers to supply and install major items of supply under the contract that the Tenderer did not manufacture or otherwise produce, the Tenderer shall provide the manufacturer's authorization, using the form provided in Section IV, showing that the Tenderer has been duly authorized by the manufacturer or producer of the related subsystem or component to supply and install that item in Kenya. The Tenderer is responsible for ensuring that the manufacturer or producer complies with the requirements of ITT 4 and 5 and meets the minimum criteria listed above for that item.

SECTION IV - TENDERING FORMS

1. FORM OF TENDER

INSTRUCTIONS TO TENDERERS

- a) *The Tenderer must prepare this Form of Tender on stationery with its letter head clearly showing the Tenderer's complete name and business address.*
- b) *All italicized text is to help Tenderer in preparing this form.*
- c) *Tenderer must complete and sign TENDERER'S ELIGIBILITY- CONFIDENTIAL BUSINESS QUESTIONNAIRE, CERTIFICATE OF INDEPENDENT TENDER DETERMINATION and the SELF DECLARATION OF THE TENDERER, all attached to this Form of Tender*
- d) *The Form of Tender shall include the following Forms duly completed and signed by the Tenderer.*
 - i. *Tenderer's Eligibility-Confidential Business Questionnaire*
 - ii. *Certificate of Independent Tender Determination*
 - iii. *Self-Declaration of the Tenderer*

Date of this Tender submission..... [insert date (as day, month and year) of

Tender submission] **ITT No.:** [insert number of ITT process]

Alternative No.: [insert identification No if this is a Tender for an alternative]

To: [insert complete name of Procuring Entity]

- a) **No reservations:** We have examined and have no reservations to the tendering document, including Addenda issued in accordance with Instructions to Tenderers (ITT 8);
- b) **Eligibility:** We meet the eligibility requirements and have no conflict of interest in accordance with ITT 4;
- c) **Tender-Securing Declaration:** We have not been debarred by the Authority based on execution of a Tender- Securing Declaration or Tender Securing Declaration in Kenya in accordance with ITT 4.8;
- d) **Conformity:** We offer to provide design, supply and installation services in conformity with the tendering document of the following: [insert a brief description of the IS Design, Supply and Installation Services];
- e) **Tender Price:** The total price of our Tender, excluding any discounts offered in item (f) below is: [Insert one of the options below as appropriate]
[Option1, in case of one lot:] Total price is: [insert the total price of the Tender in words and figures, indicating the various amounts and the respective currencies];
Or
[Option 2, in case of multiple lots:] (a) Total price of each lot [insert the total price of each lot in words and figures, indicating the various amounts and the respective currencies]; and (b) Total price of all lots (sum of all lots) [insert the total price of all lots in words and figures, indicating the various amounts and the respective currencies];
 - a) **Discounts:** The discounts offered and the methodology for their application are:
 - i. The discounts offered are: [Specify in detail each discount offered.]
 - ii. The exact method of calculations to determine the net price after application of discounts is shown below: [Specify in detail the method that shall be used to apply the discounts];
 - a) **Tender Validity Period:** Our Tender shall be valid for the period specified in TDS ITT 19.1 (as amended if applicable) from the date fixed for the Tender submission deadline (specified in TDS ITT 23.1 (as amended if applicable), and it shall remain binding upon us and may be

- accepted at any time before the expiration of that period;
- b) **Performance Security:** If our Tender is accepted, we commit to obtain a Performance Security in accordance with the tendering document;
 - c) **One Tender per Tenderer:** We are not submitting any other Tender (s) as an individual Tenderer, and we are not participating in any other Tender (s) as a Joint Venture member, and meet the requirements of ITT 4.3, other than alternative Tenders submitted in accordance with ITT 13;
 - d) **Suspension and Debarment:** We, along with any of our subcontractors, suppliers, consultants, manufacturers, or service providers for any part of the contract, are not subject to, and not controlled by any entity or individual that is subject to, a temporary suspension or a debarment imposed by the PPRA. Further, we are not in eligible under Laws of Kenya or official regulations or pursuant to a decision of the United Nations Security Council;
 - e) **State-owned enterprise or institution:** *[select the appropriate option and delete the other]* *[We are not a state- owned enterprise or institution]/ [We are a state-owned enterprise or institution but meet the requirements of ITT 4.7];*
 - f) **Commissions, gratuities and fees:** We have paid, or will pay the following commissions, gratuities, or fees with respect to the Tendering process or execution of the Contract: *[insert complete name of each Recipient, its full address, the reason for which each commission or gratuity was paid and the amount and currency of each such commission or gratuity]*

<input type="checkbox"/> We are not a state-owned enterprise or institution	<input type="checkbox"/> We are not a state-owned enterprise or institution	<input type="checkbox"/> We are not a state-owned enterprise or institution	<input type="checkbox"/> We are not a state-owned enterprise or institution

(If none has been paid or is to be paid, indicate "none.")

- g) **Binding Contract:** We understand that this Tender, together with your written acceptance thereof included in your Form of Acceptance, shall constitute a binding contract between us, until a formal contract is prepared and executed;
- h) **Not Bound to Accept:** We understand that you are not bound to accept the lowest evaluated cost Tender, the Best Evaluated Tender or any other Tender that you may receive; and
- i) **Fraud and Corruption:** We hereby certify that we have taken steps to ensure that no person acting for us or on our behalf engages in any type of Fraud and Corruption.
Name of the Tenderer: **[insert complete name of person signing the Tender]*
- j) **Collusive practices:** We hereby certify and confirm that the tender is genuine, non-collusive and made with the intention of accepting the contract if awarded. To this effect we have signed the "Certificate of Independent Tender Determination" attached below.
- k) **Code of Ethical Conduct:** We undertake to adhere by the Code of Ethical Conduct for Persons Participating in Public Procurement and Asset Disposal Activities in Kenya, copy available from www.pppra.go.ke during the procurement process and the execution of any resulting contract.
- l) We, the Tenderer, have fully completed and signed the following Forms as part of our Tender:
 - i. Tenderer's Eligibility; Confidential Business Questionnaire – to establish we are not in any conflict to interest.
 - ii. Certificate of Independent Tender Determination – to declare that we completed the tender without colluding with other tenderers.
 - iii. Self-Declaration of the Tenderer–to declare that we will, if awarded a contract, not engage in any form of fraud and corruption.
 - iv. Declaration and commitment to the code of ethics for Persons Participating in Public

Procurement and Asset Disposal Activities in Kenya. Further, we confirm that we have read and understood the full content and scope of fraud and corruption as in formed in “Appendix1-Fraud and Corruption” attached to the Form of Tender.

Name of the person duly authorized to sign the Tender on behalf of the Tenderer: ***[insert complete name of person duly authorized to sign the Tender]*

Title of the person signing the Tender: *[insert complete title of the person signing*

the Tender] **Signature of the person named above:** *[insert signature of person whose*

name and capacity are shown above] **Date signed** *[insert date of signing]* **day of**

[insert month], [insert year].

(1) **TENDERER'S ELIGIBILITY - CONFIDENTIAL BUSINESS QUESTIONNAIRE**

Instruction to Tenderer

Tender is instructed to complete the particulars required in this Form, one form for each entity if Tender is a JV. Tenderer is further reminded that it is an offence to give false information on this Form.

a) Tenderer's details

	ITEM	DESCRIPTION
1	Name of the Procuring Entity	
2	Reference Number of the Tender	
3	Date and Time of Tender Opening	
4	Name of the Tenderer	
5	Full Address and Contact Details of the Tenderer.	1. Country 2. City 3. Location 4. Building 5. Floor 6. Postal Address 7. Name and email of contact person.
6	Current Trade License Registration Number and Expiring date	
7	Name, country and full address (<i>postal and physical addresses, email, and telephone number</i>) of Registering Body/Agency	
8	Description of Nature of Business	
9	Maximum value of business which the Tenderer handles.	
10	State if Tenders Company is listed in stock exchange, give name and full address (<i>postal and physical addresses, email, and telephone number</i>) of state which stock exchange	

General and Specific Details

b) Sole Proprietor, provide the following details.

Name in full _____ Age _____ Nationality __ Country of Origin _____ Citizenship __

c) Partnership, provide the following details.

	Names of Partners	Nationality	Citizenship	% Shares owned
1				
2				
3				

d) Registered Company, provide the following details.

- i) Private or public Company ii) State the nominal and issued capital of the Company: - Nominal Kenya Shillings (Equivalent)
- iii) Give details of Directors as follows.

	Names of Director	Nationality	Citizenship	% Shares owned
1				
2				
3				

General and Specific Details

a) **Sole Proprietor**, provide the following details.

Name in full _____ Age _____
 Nationality _____ Country of Origin _____ Citizenship _____

e) **DISCLOSURE OF INTEREST**-Interest of the Firm in the Procuring Entity.

- i) Are there any person/ persons in.....(Name of Procuring Entity) who has/ have an interest or relationship in this firm?

Yes/No..... If yes, provide details as follows.

	Names of Person	Designation in the Procuring Entity	Interest or Relationship with Tenderer
1			
2			
3			

ii) Conflict of interest disclosure

	Type of Conflict	Disclosure YES OR NO	If YES provide details of the relationship with Tenderer
1	Tenderer is directly or indirectly controls, is controlled by or is under common control with another tenderer.		
2	Tenderer receives or has received any direct or indirect subsidy from another tenderer.		
3	Tenderer has the same legal representative as another tenderer		
4	Tenderer has a relationship with another tenderer, directly or through common third parties, that puts it in a position to influence the tender of another tenderer, or influence the decisions of the Procuring Entity regarding this tendering process.		
5	Any of the Tenderer's affiliates participated as a consultant in the preparation of the design or technical specifications of the works that are the subject of the tender.		
6	Tenderer would be providing goods, works, no consulting services or consulting services during implementation of the contract specified in this Tender Document.		
7	Tenderer has a close business or family relationship with a professional staff of the Procuring Entity who are directly or indirectly involved in the preparation		
	Type of Conflict	Disclosure YES OR NO	If YES provide details of the relationship with Tenderer
	of the Tender document or specifications of the Contract, and/or the Tender evaluation process of such contract.		
8	Tenderer has a close business or family relationship with a professional staff of the Procuring Entity who would be involved in the implementation or supervision of the such Contract.		
9	Has the conflict stemming from such relationship stated in item 7 and 8 above been resolved in a manner acceptable to the Procuring Entity throughout the tendering process and execution of the Contract.		

f) Certification

On behalf of the Tenderer, I certify that the information given above is complete, current and accurate as at the date of submission.

Full Name _____ Title or Designation _____

(Signature)

(Date)

a) **CERTIFICATE OF INDEPENDENT TENDER DETERMINATION**

I, the undersigned, in submitting the accompanying Letter of Tender to the _____ [Name of Procuring Entity] for: _____ [Name and number of tenders] in response to the request for tenders made by: _____ [Name of Tenderer] do hereby make the following statements that I certify to be true and complete in every respect:

I certify, on behalf of _____ [Name of Tenderer] that:

- i). I have read and I understand the contents of this Certificate;
- a) I understand that the Tender will be disqualified if this Certificate is found not to be true and complete in every respect;
- b) I am the authorized representative of the Tenderer with authority to sign this Certificate, and to submit the Tender on behalf of the Tenderer;
- c) For the purposes of this Certificate and the Tender, I understand that the word “competitor” shall include any individual or organization, other than the Tenderer, whether or not affiliated with the Tenderer, who:
 - i. Has been requested to submit a Tender in response to this request for tenders;
 - ii. could potentially submit a tender in response to this request for tenders, based on their qualifications, abilities or experience;
- d) The Tenderer discloses that [check one of the following, as applicable]:
 - i. The Tenderer has arrived at the Tender independently from, and without consultation, communication, agreement or arrangement with, any competitor;
 - ii. the Tenderer has entered into consultations, communications, agreements or arrangements with one or more competitors regarding this request for tenders, and the Tenderer discloses, in the attached document(s), complete details thereof, including the names of the competitors and the nature of, and reasons for, such consultations, communications, agreements or arrangements;
- e) In particular, without limiting the generality of paragraphs (5) (a) or (5) (b) above, there has been no consultation, communication, agreement or arrangement with any competitor regarding:
 - i. prices;
 - ii. methods, factors or formulas used to calculate prices;
 - iii. the intention or decision to submit, or not to submit, a tender; or
 - iv. the submission of a tender which does not meet the specifications of the request for Tenders; except as specifically disclosed pursuant to paragraph (5) (b) above;
- f) In addition, there has been no consultation, communication, agreement or arrangement with any competitor regarding the quality, quantity, specifications or delivery particulars of the works or services to which this request for tenders relates, except as specifically authorized by the procuring authority or as specifically disclosed pursuant to paragraph (5) (b) above;
- g) The terms of the Tender have not been, and will not be, knowingly disclosed by the Tenderer, directly or indirectly, to any competitor, prior to the date and time of the official tender opening, or of the awarding of the Contract, whichever comes first, unless otherwise required by law or as specifically disclosed pursuant to paragraph(5)(b) above.

Name _____

Title _____

Date _____

_____ /

Name, title and signature of authorized agent of Tenderer and Date]

a) SELF-DECLARATION FORMS

FORM SD1

SELF DECLARATION THAT THE PERSON/ TENDERER IS NOT DEBARRED IN THE MATTER OF THE PUBLIC PROCUREMENT AND ASSET DISPOSAL ACT 2015.

I,, of Post Office Box being a resident of
..... in the Republic of do hereby make a statement as follows: -

- a) THAT I am the Company Secretary/ Chief Executive/Managing Director/Principal Officer/Director of
..... (*insert name of the Company*) who is a Bidder in respect of **Tender No.....** for..... (*insert tender title/description*) for..... (*insert name of the Procuring entity*) and duly authorized and competent to make this statement.

- b) THAT the aforesaid Bidder, its Directors and subcontractors have not been debarred from participating in procurement proceeding under Part IV of the Act.

- c) THAT what is deponed to here in above is true to the best of my knowledge, information and belief.

..... (Title)
..... (Signature) (Date)

Bidder Official Stamp

FORM SD2

SELF DECLARATION THAT THE PERSON/TENDERER WILL NOT ENGAGE IN ANY CORRUPT OR FRAUDULENT PRACTICE

I,of P. O. Box..... being a resident of in the Republic of.....do hereby make a statement as follows: -

- a) THAT I am the Chief Executive /Managing Director/ Principal Officer/ Director of.....
..... (*insert name of the Company*) who is a Bidder in respect of **Tender No.**
..... for (*insert tender title/description*) for (*insert name of the Procuring entity*) and duly authorized and competent to make this statement.
- b) THAT the aforesaid Bidder, its servants and/or agents /subcontractors will not engage in any corrupt or fraudulent practice and has not been requested to pay any inducement to any member of the Board, Management, Staff and /or employees and /or agents of..... (*insert name of the Procuring entity*) which is the procuring entity.
- c) THAT the aforesaid Bidder, its servants and /or agents /subcontractors have not offered any inducement to any member of the Board, Management, Staff and/ or employees and/ or agents of..... (*name of the procuring entity*).
- d) THAT the aforesaid Bidder will not engage /has not engaged in any corrosive practice with other bidders participating in the subject tender
- e) THAT what is deponed to here in above is true to the best of my knowledge information and belief.

.....
(Title)

.....
(Signature)

.....
(Date)

Bidder's Official Stamp

DECLARATION AND COMMITMENT TO THE CODE OF ETHICS

I (person) on behalf of **(Name of the Business/Company/Firm)** declare that I have read and fully understood the contents of the Public Procurement & Asset Disposal Act, 2015, Regulations and the Code of Ethics for persons participating in Public Procurement and Asset Disposal activities in Kenya and my responsibilities under the Code.

I do hereby commit to abide by the provisions of the Code of Ethics for persons participating in Public Procurement and Asset Disposal.

Name of Authorized signatory.....

Sign.....

Position.....

Office address..... Telephone..... E-mail.....

Name of the Firm/Company.....

Date.....

(Company Seal/ Rubber Stamp where applicable)

Witness

Name.....

Sign.....

Date.....

4) **APPENDIX 1 - FRAUD AND CORRUPTION**

(Appendix 1 shall not be modified)

a) **Purpose**

- i. The Government of Kenya's Anti-Corruption and Economic Crime laws and their sanction's policies and procedures, Public Procurement and Asset Disposal Act, 2015 (the Act) and the Public Procurement and Asset Regulations, 2020 (the Regulations) and any other relevant Kenya's Acts or Regulations related to Fraud and Corruption, and similar offences, shall apply with respect to Public Procurement Processes and Contracts that are governed by the laws of Kenya.

b) **Requirements**

- i. The Government of Kenya requires that all parties including Procuring Entities, Tenderers, (applicants/proposers), Consultants, Contractors and Suppliers; any Sub-contractors, Sub-consultants, Service providers or Suppliers; any Agents (whether declared or not); and any of their Personnel, involved and engaged in procurement under Kenya's Laws and Regulation, observe the highest standard of ethics during the procurement process, selection and contract execution of all contracts, and refrain from Fraud and Corruption and fully comply with Kenya's laws and Regulations as per paragraphs 1.1 above.

- 2.2 Section 66 of the Act describes rules to be followed and actions to be taken in dealing with Corrupt, Coercive, Obstructive, Collusive or Fraudulent practices, and Conflicts of Interest in procurement including consequences for offences committed. A few of the provisions noted below high light Kenya's policy of no tolerance for such practices and behavior:

1. A person to whom this Act applies shall not be involved in any corrupt, coercive, obstructive, collusive or fraudulent practice; or conflicts of interest in any procurement or asset disposal proceeding;
2. A person referred to under subsection (1) who contravenes the provisions of that subsection commits an offence;

3. Without limiting the generality of the subsection (1) and (2), the person shall be: -

1. disqualified from entering into a contract for a procurement or asset disposal proceeding; or
2. if a contract has already been entered into with the person, the contract shall be voidable;

4. The voiding of a contract by the procuring entity under subsection (7) does not limit any legal remedy the procuring entity may have;

5. An employee or agent of the procuring entity or a member of the Board or committee of the procuring entity who has a conflict of interest with respect to a procurement: -

1. Shall not take part in the procurement proceedings;
2. shall not, after a procurement contract has been entered into, take part in any decision relating to the procurement or contract; and

3. shall not be a subcontractor for the tenderer to whom was awarded contract, or a member of the group of tenderers to whom the contract was awarded, but the subcontractor appointed shall meet all the requirements of this Act.

6. An employee, agent or member described in subsection (1) who refrains from doing anything prohibited under that subsection, but for that subsection, would have been within his or her duties shall disclose the conflict of interest to the procuring entity;

7. If a person contravenes sub section (1) with respect to a conflict of interest described in sub section (5) (a) and the contract is awarded to the person or his relative or to another person in whom one of them had a direct or indirect pecuniary interest, the contract shall be terminated and all costs incurred by the public entity shall be made good by the awarding

officer. Etc.

ii. In compliance with Kenya's laws, regulations and policies mentioned above, the Procuring Entity:

a) Defines broadly, for the purposes of the above provisions, the terms:

- i. "corrupt practice" is the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party;
- ii. "fraudulent practice" is any act or omission, including misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain financial or other benefit or to avoid an obligation;
- iii. "collusive practice" is an arrangement between two or more parties designed to achieve an improper purpose, including to influence improperly the actions of another party;
- iv. "coercive practice" is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party;
- v. "obstructive practice" is:
 1. Deliberately destroying, falsifying, altering, or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede investigation by Public Procurement Regulatory Authority (PPRA) or any other appropriate authority appointed by Government of Kenya into allegations of a corrupt, fraudulent, coercive, or collusive practice; and/or threatening, harassing, or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation; or
 2. acts intended to materially impede the exercise of the PPRA's or the appointed authority's inspection and audit rights provided for under paragraph 2.3e. below.

b) Defines more specifically, in accordance with the Act, provisions set forth for fraudulent and collusive practices as follows:

"fraudulent practice" includes a misrepresentation of fact in order to influence a procurement or disposal processor the exercise of a contract to the detriment of the procuring entity or the tenderer or the contractor, and includes collusive practices amongst tenderers prior to or after tender submission designed to establish tender prices at artificial non-competitive levels and to deprive the procuring entity of the benefits of free and open competition.

- c) Rejects a proposal for award¹ of a contract if PPRA determines that the firm or individual recommended for award, any of its personnel, or its agents, or its sub-consultants, sub-contractors, service providers, suppliers and/ or their employees, has, directly or indirectly, engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices in competing for the contract in question;
- d) Pursuant to the Act and the Regulations, the Procuring Entity may recommend to PPRA for sanctioning and debarment of a firm or individual, as applicable under the Act and the Regulations;
- e) Requires that a clause be included in the tender documents and Request for Proposal documents requiring
 - (i) Tenderers (applicants/proposers), Consultants, Contractors, and Suppliers, and their Sub-contractors, Sub-consultants, Service providers, Suppliers, Agents personnel, permit the PPRA or any other appropriate authority appointed by Government of Kenya to inspect²all accounts, records and other documents relating to the procurement process, selection and/or contract execution, and to have them audited by auditors appointed by the PPRA or any other appropriate authority appointed by Government of Kenya; and
- f) Pursuant to Section 62 of the Act, requires Applicants/Tenderers to submit along with their Applications/Tenders/Proposals a "Self-Declaration Form" as included in the procurement document declaring that they and all parties involved in the procurement process and contract execution have not engaged/ will not engage in any corrupt or fraudulent practices.

PRICE SCHEDULE FORMS

Notes to Tenderers on working with the Price Schedules

1.1 General

The Price Schedules are divided into separate Schedules as follows:

- a Grand Summary Cost Table - **To be filled**
- b Supply and Installation Cost Summary Table
- c Recurrent Cost Summary Table
- d Supply and Installation Cost Sub-Table (s)
- e Recurrent Cost Sub-Tables (s)
- f Country of Origin Code Table – **To be filled**

[insert:]

- i. The Schedules do not generally give a full description of the information technologies to be supplied, installed, and operationally accepted, or the Services to be performed under each item. However, it is assumed that Tenderers shall have read the Technical Requirements and other sections of these tendering documents to ascertain the full scope of the requirements associated with each item prior to filling in the rates and prices. The quoted rates and prices shall be deemed to cover the full scope of these Technical Requirements, as well as overhead and profit.
- ii. If Tenderers are unclear or uncertain as to the scope of any item, they shall seek clarification in accordance with the Instructions to Tenderers in the tendering documents prior to submitting their tender.

a) Pricing

- i. Prices shall be filled in indelible ink, and any alterations necessary due to errors, etc., shall be initialed by the Tenderer. As specified in the Tender Data Sheet, prices shall be fixed and firm for the duration of the Contract.
- ii. Tender prices shall be quoted in the manner indicated and, in the currencies, specified in ITT 18.1 and ITT 18.2. Prices must correspond to items of the scope and quality defined in the Technical Requirements or elsewhere in these tendering documents.
- iii. The Tenderer must exercise great care in preparing its calculations, since there is no opportunity to correct errors once the deadline for submission of tenders has passed. A single error in specifying a unit price can therefore change a Tenderer's overall total tender price substantially, make the tender noncompetitive, or subject the Tenderer to possible loss. The Procuring Entity will correct any arithmetic error in accordance with the provisions of ITT 32.
- iv. Payments will be made to the Supplier in the currency or currencies indicated under each respective item. As specified in ITT18.2, no more than two foreign currencies may be used.

PRICE SCHEDULE

NAME OF TENDER: SUPPLY, DELIVERY, REMODELING AND MODERNIZATION OF DATACENTER, UPGRADE OF LAN, EXTENSION OF WIFI/CCT COVERAGE AND INSTALLATION OF CLEAN POWER FOR ICT LABORATORY AT EASA

TENDER NUMBER: KCAA/045/2022-2023 (BIDDERS TO FILL TABLE 1 TO 3)

TABLE 1: PRICE SCHEDULE FOR LOT 1 - GRAND SUMMARY COST TABLE – ALL BIDDERS TO DULY FILL THE BELOW PRICE SCHEDULE TO BE TRANSFERRED TO TABLE 3 AND THE FORM OF TENDER.

No	ItemDescription	Unit	Quantity	Unit cost KSHS.	Total Cost. KSHS.
1.	Modernization/Remodeling of the data center.	Lot	1		
2.	Installation of Clean power for the ICT laboratory	Lot	1		
3.	Training	Lot	1		
4.	SLA	Lot	1		
5.	Other requirements under lot 1	Lot	1		
GRAND TOTAL COST FOR LOT 1 (INCLUSIVE OF VAT AND ALL APPLICABLE TAXES) TO BE TRANSFERRED TO GRAND SUMMARY COST TABLE 3					

TABLE 2: PRICE SCHEDULE FOR LOT 2 – ALL BIDDERS TO DULY FILL THE BELOW PRICE SCHEDULE TO BE TRANSFERRED TO TABLE 3 AND THE FORM OF TENDER

No	ItemDescription	Unit	Quantity	Unit cost KSHS.	Total Cost KSHS.
1.	Overhaul of Network Infrastructure - LAN	Lot	1		
2.	Extension of WLAN (WIFI) Coverage	Lot	1		
3.	Extension of CCTV Coverage	Lot	1		
4.	Training	Lot	1		
5.	SLA	Lot	1		
6.	Other requirements under Lot 2	Lot	1		
GRAND TOTAL COST FOR LOT 2 (INCLUSIVE OF VAT AND ALL APPLICABLE TAXES) TO BE TRANSFERRED TO GRAND SUMMARY COST TABLE 3					

TABLE 3: GRAND TOTAL SUMMARY PRICE SCHEDULE FOR LOT 1 AND LOT 2 – ALL BIDDERS TO DULY FILL THE BELOW PRICE SHEDULE AND GRAND TOTAL TO BE TRANSFERRED TO THE FORM OF TENDER.

No	ItemDescription	Total Cost KSHS.
1.	Supply, Delivery, Remodeling And Modernization of Datacenter, Upgrade Of LAN, Extension of WIFI/CCT Coverage And Installation of Clean Power for ICT Laboratory At EASA for Lot 1	
2.	Supply, Delivery, Remodeling And Modernization of Datacenter, Upgrade Of LAN, Extension of WIFI/CCT Coverage And Installation of Clean Power for ICT Laboratory At EASA for Lot 2	
GRAND TOTAL COST FOR LOT 1 AND 2 (INCLUSIVE OF VAT AND ALL APPLICABLE TAXES) TO BE TRANSFERRED TO GRAND FORM OF TENDER		

PLEASE NOTE AND COMPLY WITH THE FOLLOWING:

1. The total award shall be for **one contract and to be transferred to the form of tender**)
2. For avoidance of doubt the award of contract shall be done as ONE contract to the lowest evaluated bidder who meets all tender requirements.
3. All prices to be inclusive of all applicable taxes.
4. In case of discrepancy between unit price and total, the unit price shall prevail.
5. All prices to be inclusive of all logistical costs and applicable taxes.
6. Price quoted shall be transferred to the form of tender

Authorized Official:

Name

Signature, date and official stamp

2. Supply and Installation Cost Summary Table – NOT APPLICABLE

Costs MUST reflect prices and rates quoted in accordance with ITT17 and

Item	Description	Qty.	Unit Price ¹		Total Price ¹	
			Foreign Currency Portion	Local Currency Portion	Foreign	Local
		(1)	(2)	(3)	(1) x (2)	(1) x (3)
TOTAL (to Schedule No. . Grand Summary)						

Note: - indicates not applicable. “Indicates repetition of table entry above. Refer to the relevant Supply and Installation Cost Sub-Table for the specific components that constitute each Subsystem or line item in this summary table

Name of Tenderer: _____

_____ Date _____

Authorized Signature of Tenderer:

3. Supply and Installation Cost Sub-Table – NOT APPLICABLE

Line-item number: [*specify: relevant line-item number from the Supply and Installation Cost Summary Table (e.g., 1.1)*]

Prices, rates, and subtotals MUST be quoted in accordance with ITT 17 and ITT18.

				Unit Prices / Rates				Total Prices			
				Supplied Locally	Supplied from outside Kenya			Supplied Locally	Supplied from outside Kenya		
Component No.	Component Description	Country of Origin Code	Quantity	[insert: local currency]	[insert: local currency]	[insert: foreign currency A]	[insert: foreign currency B]	[insert: local currency]	[insert: local currency]	[insert: foreign currency A]	[insert: foreign currency B]
X.1	_____	-	--	-	--	--	-				
Subtotals (to [insert:line item] of Supply and Installation Cost Summary Table)											

Note: - - indicates not applicable

Name of Tenderer: _____

Date _____

Authorized Signature of Tenderer:

4. Recurrent Cost Sub-Table [insert: identifying number] –Warranty Period – NOT APPLICABLE

Lot number: [if a multi-lot procurement, insert: lot number, otherwise state “single lot procurement”] Line item

number: [specify: relevant line item number from the Recurrent Cost Summary Table– (e.g., y.1)] Currency:

[specify: the currency of the Recurrent Costs in which the costs expressed in this Sub-Table are expressed]

[As necessary for operation of the System, specify: the detailed components and quantities in the Sub-Table below for the line item specified above, modifying the sample components and sample table entries as needed. Repeat the Sub-Table as needed to cover each and every line item in the Recurrent Cost Summary Table that requires elaboration.]

Costs MUST reflect prices and rates quoted in accordance with ITT 17 and ITT18.

Component No.	Component	Maximum all-inclusive costs (for costs in [insert:currency])						
		Y1	Y2	Y3	Y4	...	Yn	Sub-total for [insert: currency]
1.	Hardware Maintenance	Incl. in Warranty	Incl. in Warranty	Incl. in Warranty				
2.	Software Licenses & Updates	Incl.in Warranty						
2.1	System and General-Purpose Software	Incl.in Warranty						
2.2	Application, Standard and Custom Software	Incl. in Warranty						
3.	Technical Services							
3.1	Sr. Systems Analyst							
3.2	Sr. Programmer							
3.3	Sr. Network Specialist,...etc.							
4.	Telecommunications costs[to be detailed]							
5.	[Identify other recurrent costs as may apply]							
	Annual Subtotals:							--
Cumulative Subtotal (to [insert: currency] entry for [insert:line item] in the Recurrent Cost Summary Table)								

Name of Tenderer: _____ Date _____

Authorized Signature of Tenderer: _____

QUALIFICATION FORMS – NOT APPLICABLE

1. FOREIGN TENDERERS 40% RULE

Pursuant to ITT 4.11, a foreign tenderer must complete this form to demonstrate that the tender fulfils this condition.

ITEM	Description of Work Item	Describe location of Source	COST in K. shillings	Comments, if any
A	Local Labor			
1				
2				
3				
4				
5				
B				
1				
2				
3				
4				
5				
C	Local materials			
1				
3				
4				
5				
D				
1				
2				
3				
4				
5				
E				
1				
2				
3				
4				
5				
6				
	TOTAL COST LOCAL CONTENT		XXXXXX	
	PERCENTAGE OF CONTRACT PRICE		XXXXXX	

1. Form ELI - 1 Tenderer Information Form

[The Tenderer shall fill in this Form in accordance with the instructions indicated below. No alterations to its format shall be permitted and no substitutions shall be accepted.]

Date:*[insert date (as day, month and year) of Tender submission]*

ITT No.:*[insert number of Tendering process]*

Alternative No.:*[insert identification No if this is a Tender for an alternative]*

1.Tenderer’s Name <i>[insert Tenderer’s legal name]</i>
2. In case of JV, legal name of each member: <i>[insert legal name of each member in JV]</i>
3. Tenderer’s actual or intended country of registration: <i>[insert actual or intended country of registration]</i>
4. Tenderer’s year of registration: <i>[insert Tenderer’s year of registration]</i>
5. Tenderer’s Address in country of registration: <i>[insert Tenderer’s legal address in country of registration]</i>
6. Tenderer’s Authorized Representative Information Name: <i>[insert Authorized Representative’s name]</i> Address: <i>[insert Authorized Representative’s Address]</i> Telephone/Fax numbers: <i>[insert Authorized Representative’s telephone/fax numbers]</i> Email Address: <i>[insert Authorized Representative’s email address]</i>
7. Attached are copies of original documents of <i>[check the box(es) of the attached original documents]</i> <input type="checkbox"/> Articles of Incorporation (or equivalent documents of constitution or association), and/or documents of registration of the legal entity named above, in accordance with ITT 4.4. <input type="checkbox"/> In case of JV, Form of intent to form JV or JV agreement, in accordance with ITT 4.1. <input type="checkbox"/> In case of state-owned enterprise or institution, in accordance with ITT 4.6 documents establishing: • • • <input type="checkbox"/> Included are the organizational chart, a list of Board of Directors, and the beneficial ownership.

2 Form ELI-1 Tenderer's JV Members Information Form

[The Tenderer shall fill in this Form in accordance with the instructions indicated below. The following table shall be filled in for the Tenderer and for each member of a Joint Venture].

Date:*[insert date (as day, month and year) of Tender submission]*

ITT No.:*[insert number of Tendering process]*

Alternative No.:*[insert identification No if this is a Tender for an*

alternative] Page _____ of _____ pages

1. Tenderer's Name: <i>[insert Tenderer's legal name]</i>
2. Tenderer's JV Member's name: <i>[insert JV's Member legal name]</i>
3. Tenderer's JV Member's country of registration: <i>[insert JV's Member country of registration]</i>
4. Tenderer's JV Member's year of registration: <i>[insert JV's Member year of registration]</i>
5. Tenderer's JV Member's legal address in country of registration: <i>[insert JV's Member legal address in country of registration]</i>
6. Tenderer's JV Member's authorized representative information Name: <i>[insert name of JV's Member authorized representative]</i> Address: <i>[insert address of JV's Member authorized representative]</i> Telephone/Fax numbers: <i>[insert telephone/fax numbers of JV's Member authorized representative]</i> Email Address: <i>[insert email address of JV's Member authorized representative]</i>
7. Attached are copies of original documents of <i>[check the box(es) of the attached original documents]</i> <input type="checkbox"/> Articles of Incorporation (or equivalent documents of constitution or association), and/or registration documents of the legal entity named above, in accordance with ITT 4.4. <input type="checkbox"/> In case of a state-owned enterprise or institution, documents establishing legal and financial autonomy, operation in accordance with commercial law, and they are not under the supervision of the Procuring Entity in accordance with ITT 4.6. <input type="checkbox"/> Included are the organizational chart, a list of Board of Directors, and the beneficial ownership.

1. Form CON-1 Historical Contract Non-Performance and Pending Litigation.

In case a pre-qualification process was conducted this form should be used only if the information submitted at the time of pre-qualification requires updating

Tenderer's Legal Name: _____ Date: _____

JV member Legal Name: _____

ITT No.: _____

Age of _____ pages

Non-Performing Contracts in accordance with Section III, Evaluation and Qualification Criteria			
Contract non-performance did not occur during the stipulated period, in accordance with Sub Section III, Evaluation Criteria			
Pending Litigation, in accordance with Section III, Evaluation and Qualification Criteria			
No pending litigation in accordance with Sub-Factor 2.2.3 of Section III, Evaluation Criteria			
Pending litigation in accordance with Sub-Factor 2.2.3 of Section III, Evaluation Criteria, as indicated below			
Year	Outcome as Percent of Total Assets	Contract Identification	Total Contract Amount (current value, US\$ equivalent)
_____	_____	Contract Identification: Name of Procuring Entity: Address of Procuring Entity: Matter in dispute:	_____
_____	_____	Contract Identification: Name of Procuring Entity: Address of Procuring Entity: Matter in dispute:	_____

1. Form EXP - 1 Experience – General Experience

Tenderer's Legal Name: _____ Date: _____

JV Member Legal Name: _____ ITT No.: _____

Page _____ of _____ pages

Starting Month / Year	Ending Month / Year	Years*	Contract Identification	Role of Tenderer
_____	_____		Contract name: Brief Description of the Information System performed by the Tenderer: Name of Procuring Entity: Address:	_____
_____	_____		Contract name: Brief Description of the Information System performed by the Tenderer: Name of Procuring Entity: Address:	_____
_____	_____		Contract name: Brief Description of the Information System performed by the Tenderer: Name of Procuring Entity: Address:	_____
_____	_____		Contract name: Brief Description of the Information System performed by the Tenderer: Name of Procuring Entity: Address:	_____
_____	_____		Contract name: Brief Description of the Information System performed by the Tenderer: Name of Procuring Entity: Address:	_____
_____	_____		Contract name: Brief Description of the Information System performed by the Tenderer: Name of Procuring Entity: Address:	_____

*List calendar year for years with contracts with at least nine (9) months activity per year starting with the earliest year.

a) **Form EXP – 2 Specific Experience**

Tenderer's LegalName: _____

JV Member Legal Name: _____ Page _____
 _____ of _____ pages

Date: _____

ITT No.: _____

Similar Contract Number: — of	Information		
Contract Identification	_____		
Award date Completion date	_____ _____		
Role in Contract	<input type="checkbox"/> Prime Supplier	<input type="checkbox"/> Management Contractor	<input type="checkbox"/> Subcontractor
Total contract amount	_____		US\$ _____
If member in a JV or subcontractor, specify participation of total contract amount	_____	% _____	US\$ _____
Procuring Entity's Name:	_____		
Address:	_____		
Telephone/fax number:	_____		
E-mail:	_____		
Similar Contract No. __ [insert specific number] of [total number of contracts] __ required	Information		
Description of the similarity in accordance with Sub-Factor 2.4.2 of Section III:			
Amount	_____		
Physical size	_____		
Complexity	_____		
Methods/Technology	_____		
Key Activities	_____		

b) Form CCC-1 Summary Sheet: Current Contract Commitments/ Work in Progress

Name of Tenderer or partner of a Joint Venture.

Tenderers and each partner to a Joint Venture tender should provide information on their current commitments on all contracts that have been awarded, or for which a Form of intent or acceptance has been received, or for contracts approaching completion, but for which an unqualified, full completion certificate has yet to be issued

Name of contract	Procuring Entity contact address/tel./fax	of outstanding Information System (currentUS\$ equivalent)	Estimated completion date	Average monthly invoicing over last six months (US\$/month)
1.				
2.				
3.				
4.				
5.				
etc.				

c) **Form FIN – 1 Financial Situation**

Historical Financial Performance

Tenderer's Legal Name: _____ Date: _____

JV Member Legal Name: _____ ITT No. _____

Page _____ of _____ pages

To be completed by the Tenderer and, if JV, by each member

Financial information in US\$ equivalent	Historic information for previous _____ () years (US\$ equivalent in 000s)						
	Year1	Year 2	Year 3	Year...	Year n	Avg.	Avg. Ratio
Information from Balance Sheet							
Total Assets (TA)							
Total Liabilities (TL)							
Net Worth (NW)							
Current Assets (CA)							
Current Liabilities (CL)							
Information from Income Statement							
Total Revenue (TR)							
Profits Before Taxes (PBT)							

Attached are copies of financial statements (balance sheets, including all related notes, and income statements) for the years required above complying with the following conditions:

- a) Must reflect the financial situation of the Tenderer or member to a JV, and not sister or parent companies.
- b) Historic financial statements must be audited by a certified accountant.
- c) Historic financial statements must be complete, including all notes to the financial statements.
- d) Historic financial statements must correspond to accounting periods already completed and audited (no statements for partial periods shall be requested or accepted).

Form FIN –2 Average Annual Turnover

Tenderer's Legal Name: _____ Date: _____

JV Member Legal Name: _____ ITT No.: _____

Page _____ of _____ pages

Annual turnover data (applicable activities only)		
Year	Amount and Currency	US\$ equivalent
	_____	_____
	_____	_____
	_____	_____
	_____	_____
	_____	_____
*Average Annual Turnover	_____	_____

*Average annual turnover calculated as total certified payments received for work in progress or completed, divided by the number of years specified in Section III, Evaluation and Qualification Criteria, Sub-Factor 2.3.2.

a) **Form F-3 Financial Resources – FILL THIS FORM**

Specify proposed sources of financing, such as liquid assets, unencumbered real assets, lines of credit, and other financial means, net of current commitments, available to meet the total cash flow demands of the subject contract or contracts as indicated in Section III, Evaluation and Qualification Criteria.

Source of financing	Amount (US\$ equivalent)
1.	
2.	
3.	
4.	

8 Personnel Capabilities

i) Key Personnel

Name of Tenderer or partner of a Joint Venture Tenderers should provide the names and details of the suitably qualified Personnel to perform the Contract. The data on their experience should be supplied using the Form PER-2 below for each candidate.

1.	Title of position: ...	
	Name of candidate:	
	Duration of appointment:	<i>[insert the whole period (start and end dates) for which this position will be engaged]</i>
	Time commitment: for this position:	<i>[insert the number of days/week/months/ that has been scheduled for this position]</i>
	Expected time schedule for this position:	<i>[insert the expected time schedule for this position (e.g. attach high level Gantt chart)]</i>
2.	Title of position: ...	
	Name of candidate:	
	Duration of appointment:	<i>[insert the whole period (start and end dates) for which this position will be engaged]</i>
	Time commitment: for this position:	<i>[insert the number of days/week/months/ that has been scheduled for this position]</i>
	Expected time schedule for this position:	<i>[insert the expected time schedule for this position (e.g. attach high level Gantt chart)]</i>
3.	Title of position: ...	
	Name of candidate:	
	Duration of appointment:	<i>[insert the whole period (start and end dates) for which this position will be engaged]</i>
	Time commitment: for this position:	<i>[insert the number of days/week/months/ that has been scheduled for this position]</i>
	Expected time schedule for this position:	<i>[insert the expected time schedule for this position (e.g. attach high level Gantt chart)]</i>
4.	Title of position:	
	Name of candidate	
	Duration of appointment:	<i>[insert the whole period (start and end dates) for which this position will be engaged]</i>
	Time commitment: for this position:	<i>[insert the number of days/week/months/ that has been scheduled for this position]</i>
	Expected time schedule for this position:	<i>[insert the expected time schedule for this position (e.g. attach high level Gantt chart)]</i>
6...	Title of position:	
	Name of candidate	
	Duration of appointment:	<i>[insert the whole period (start and end dates) for which this position will be engaged]</i>
	Time commitment: for this position:	<i>[insert the number of days/week/months/ that has been scheduled for this position]</i>
	Expected time schedule for this position:	<i>[insert the expected time schedule for this position (e.g. attach high level Gantt chart)]</i>

(iv) Manufacturer's Authorization – TO BE PROVIDED AS PER MANDATORY REQUIREMENTS

Note: This authorization should be written on the Form head of the Manufacturer and be signed by a person with the proper authority to sign documents that are binding on the Manufacturer.

Invitation for Tenders Title and No.: _____ [*Procuring Entity insert: ITT Title and Number*]

To: _____ [Procuring Entity insert: **Procuring Entity's Officer to receive the Manufacture's Authorization**]

WHEREAS [insert: **Name of Manufacturer**] who are official producers of _____ [insert: **items of supply by Manufacturer**] and having production facilities at _____ [insert: **address of Manufacturer**] do here by authorize _____ [insert: **name of Tenderer or Joint Venture**] located at _____ [insert: **address of Tenderer or Joint Venture**] (hereinafter, the "Tenderer") to submit a tender and subsequently negotiate and sign a Contract with you for resale of the following Products produced by us:

We hereby confirm that, in case the tendering results in a Contract between you and the Tenderer, the above-listed products will come with our full standard warranty.

Name [insert: **Name of Officer**] in the capacity of [insert: **Title of Officer**] Signed _____

Duly authorized to sign the authorization for and on behalf of: _____ [insert: **Name of Manufacturer**]

Dated this _____ [insert: **ordinal**] day of _____ [insert: **month**], [insert: **year**]. [add Corporate Seal

(where appropriate)]

a) **Subcontractor's Agreement**

Note: This agreement should be written on the Form head of the Subcontractor and be signed by a person with the proper authority to sign documents that are binding on the Subcontractor.

Invitation for Tenders Title and No.: _____ [Procuring Entity insert: **ITT Title and Number**]

To: _____ [Procuring Entity insert: **Procuring Entity's Officer to receive the Subcontractor's Agreement**]

WHERE AS [insert: **Name of Subcontractor**], having head offices at _____ [insert: **address of Subcontractor**], have been informed by _____ [insert: **name of Tenderer or Joint Venture**] located at _____ [insert: **address of Tenderer or Joint Venture**] (here in after, the "Tenderer") that it will submit a tender in which _____ [insert: **Name of Subcontractor**] will provide _____ [insert: **items of supply or services provided by the Subcontractor**]. We hereby commit to provide the above-named items, in the instance that the Tenderer is awarded the Contract.

Name [insert: **Name of Officer**] in the capacity of _____ [insert: **Title of Officer**] Signed

_____ Duly authorized to sign the authorization for and on behalf

of: _____ [insert: **Name of Subcontractor**]

Dated this _____ [insert: **ordinal**] day of _____ [insert: **month**], _____ [insert: **year**].

[add Corporate Seal (where appropriate)]

vi) List of Proposed Subcontractors

Item	Proposed Subcontractor	Place of Registration & Qualification

9. Intellectual Property Forms Notes to

Tenderers on working with the Intellectual Property Forms

In accordance with ITT 11.1(j), Tenderers must submit, as part of their tenders, lists of all the Software included in the tender assigned to one of the following categories: (A) System, General-Purpose, or Application Software; or (B) Standard or Custom Software. Tenderers must also submit a list of all Custom Materials. These categorizations are needed to support the Intellectual Property in the GCC and SCC.

D) Software List

SoftwareItem	(select one per item)			(select one per item)	
	System Software	General-Purpose Software	Application Software	Standard Software	Custom Software

List of Custom Materials

Custom Materials

b) **Conformance of Information System Materials**

a) **Format of the Technical Tender**

In accordance with ITT 16.2, the documentary evidence of conformity of the Information System to the tendering documents includes (but is not restricted to):

- i. The Tenderer's Preliminary Project Plan, including, but not restricted, to the topics specified in the TDS ITT 16.2. The Preliminary Project Plan should also state the Tenderer's assessment of the major responsibilities of the Procuring Entity and any other involved third parties in System supply and installation, as well as the Tenderer's proposed means for coordinating activities by each of the involved parties to avoid delays or interference.
- ii. A written confirmation by the Tenderer that, if awarded the Contract, it shall accept responsibility for successful integration and interoperability of all the proposed Information Technologies included in the System, as further specified in the Technical Requirements.
- iii. Item-by-Item Commentary on the Technical Requirements demonstrating the substantial responsiveness of the overall design of the System and the individual Information Technologies, Goods, and Services offered to those Technical Requirements.

In demonstrating the responsiveness of its tender, the Tenderer must use the Technical Responsiveness Checklist (Format). Failure to do so increases significantly the risk that the Tenderer's Technical Tender will be declared technically non-responsive. Among other things, the checklist should contain explicit cross-references to the relevant pages in supporting materials included the Tenderer's Technical Tender.

Note: The Technical Requirements are voiced as requirements of the *Supplier* and/or the *System*. The Tenderer's response must provide clear evidence for the evaluation team to assess the credibility of the response. A response of "yes" or "will do" is unlikely to convey the credibility of the response. The Tenderer should indicate *that*—and to the greatest extent practical—*how* the Tenderer would comply with the requirements if awarded the contract. Whenever the technical requirements relate to feature(s) of existing products (e.g., hardware or software), the features should be described and the relevant product literature referenced. When the technical requirements relate to professional services (e.g., analysis, configuration, integration, training, etc.) some effort should be expended to describe how they would be rendered – not just a commitment to perform the [cut-and-paste] requirement. Whenever a technical requirement is for the Supplier to provide certifications (e.g., ISO9001), copies of these certifications must be included in the Technical Tender.

Note: The Manufacturer's Authorizations (and any Subcontractor Agreements) are to be included in Attachment 2 (Tenderer Qualifications), in accordance with and ITT 15.

Note: As a matter of practice, the contract cannot be awarded to a Tenderer whose Technical Tender deviates (materially) from the Technical Requirements – *on any Technical Requirement*. Such deviations include omissions (e.g., non-responses) and responses that do not meet or exceed the requirement. Extreme care must be exercised in the preparation and presentation of the responses to all the Technical Requirements.

- iv. Supporting materials to underpin the Item-by-item Commentary on the Technical Requirements (e.g., product literature, white-papers, narrative descriptions of technical approaches to be employed, etc.). In the interest of timely tender evaluation and contract award, Tenderers are encouraged not to overload the supporting materials with documents that do not directly address the Procuring Entity's requirements.
- v. Any separate and enforceable contract(s) for Recurrent Cost items which the TDSITT17.2 required Tenderers to tender.

Note: To facilitate tender evaluation and contract award, Tenderers encouraged to provide electronic copies of their Technical Tender—preferably in a format that the evaluation team can extract text from to facilitate the tender clarification process and to facilitate the preparation of the Tender Evaluation Report.

PART 2 – PROCURING ENTITY'S REQUIREMENTS

TECHNICAL SPECIFICATIONS FOR REMODELING AND MODERNIZATION OF DATA CENTER AND OVERHAUL OF THE NETWORK INFRASTRUCTURE AT THE EAST AFRICAN SCHOOL OF AVIATION (EASA)

The Authority intends to modernize and remodel the EASA data center in the 2022/2023 and 2023/2024 financial years. The project was necessitated by the aging and antiquated equipment in the server room/data center. There are major deficiencies in power management and cooling. Besides these deficiencies, the old design is unable to eliminate single-point-of failures in the equipment. The data center modernization and redesign project will promote EASA's digital transformation journey, improve cybersecurity and ensure swift response in business continuity and disaster recovery. Within this project the ICT lab's power management shall be redesigned so that all the equipment have clean power free of interruptions and fluctuations.

Besides the data center project, KCAA also intends to overhaul the EASA network infrastructure over the same period. The network requires upgrading and redesigning to accommodate expansion demands. The institution has also grown physically with extra buildings (library, chapel, swimming pool cafeteria, gates etc) spanning over large areas each with networking needs. The new network shall offer improved speed and reliability, enhanced security, flexibility and robustness. It shall also be scalable to accommodate current and future expansions in infrastructure like PABX, CCTV, wireless LAN (WiFi), access control and security.

The entire project has the following key components: -

- i. Remodeling and modernization of Data center
- ii. Overhaul of EASA LAN infrastructure
- iii. Extension of EASA WLAN (WIFI) coverage
- iv. Extension of EASA CCTV coverage
- v. Installation of clean power for EASA ICT laboratory
- vi. Migration of equipment/data and disposal of obsolete decommissioned items.
- vii. Technical training, and knowledge transfer
- viii. Maintenance and support services.

The projects is divided into two lots as follows:-

1. Lot 1 – Remodeling/Modernization of the Data center and Installation of clean power for the ICT Laboratory.
2. Lot 2 – Overhaul of the LAN Infrastructure, Extension of WLAN (WIFI) Coverage and Extension of CCTV Coverage.

PART 1: LOT 1 - REMODELING/MODERNIZATION OF THE DATA CENTER AND INSTALLATION OF CLEAN POWER FOR THE ICT LABORATORY.

THE FOLLOWING CRITERIA WILL BE USED TO DETERMINE MANDATORY TECHNICAL DOCUMENTATION RESPONSIVENESS OF THE BIDDERS FOR LOT 1

All bidders must provide the following mandatory technical documentation to be considered as responsive in order to proceed to the next stage of evaluation for LOT 1. The bidder MUST provide detailed explanations of how they shall fully meet the required technical documentation. Bidders should NOT write complied or just tick (√) against a requirement, a full detailed explanation is required.

ALL THE REQUIREMENTS ARE MANDATORY.

Table 1 : Mandatory Technical Documentation Requirements

Mandatory Technical Documentation Requirements		
No.	Item/Specification	Requirement
1.	Vendor's experience in data center design, establishment and management	The bidder MUST have successfully designed, implemented, supported and maintained at least three (3) data centers <u>EACH</u> with a value of at least KES 40 (Forty) million within the last six (6) years. For each of the three (3) sites, attach the following: - i. Name of site and client ii. Valid copies of LSO or contracts iii. Corresponding completion certificates and/or Corresponding recommendation letters iv. Contact person's name and email address
2.	Staff competence in data center power management vendor certification of the proposed power solution.	The bidder MUST have at least two (2) engineers trained and experienced in data center power installation and management for the proposed solution. For each of the engineers, attach the following: - i. Attach CVs ii. Attach copies of certificates showing training in power management vendor certification. iii. Attach documentation for the sites implemented by the respective engineers. <i>The engineers proposed here MUST be involved in the implementation of the project if awarded.</i>
3.	Staff competence in datacenter precision air conditioning	The bidder MUST have at least two (2) engineers trained and experienced in data center precision air conditioning. For each of the engineers, attach the following: - iv. Attach CVs i. Attach copies of certificates showing training in air conditioning ii. Attach documentation for the sites implemented by the respective engineers. <i>The engineers proposed here MUST be involved in the implementation of the project if awarded.</i>
4.	Staff competence in structured cabling and networking	The bidder MUST have at least two (2) engineers trained and experienced in structured cabling and networking. For each of the engineers, attach the following: - i. Attach CVs ii. Attach copies of certificates showing training in networking iii. Attach documentation for the sites implemented by the respective engineers. <i>The engineers proposed here MUST be involved in the implementation of the project if awarded.</i>
5.	Staff competence in data center fire detection and suppression system	The bidder MUST have at least two (2) engineers trained and experienced in data center fire detection and suppression. For each of the engineers, attach the following: - i. Attach CVs ii. Attach copies of certificates showing training in data center fire detection and suppression iii. Attach documentation for the sites implemented by the respective engineers. <i>The engineers proposed here MUST be involved in the implementation of the project if awarded.</i>
6.	Staff competence in PABX, CCTV and WLAN	The bidder MUST have at an engineer trained and experienced in each of the following: PABX, CCTV and WLAN. For each of the engineers, attach the following: - i. Attach CVs ii. Attach copies of certificates showing training in PABX, CCTV and WLAN

Mandatory Technical Documentation Requirements		
No.	Item/Specification	Requirement
		iii. Attach documentation for the sites implemented by the respective engineers. <i>The engineers proposed here MUST be involved in the implementation of the project if awarded.</i>
7.	Staff competence in project management.	The bidder MUST have at an engineer trained and experienced in project management. Attach the following: - i. Attach CVs ii. Attach copies of certificates showing training in project management. iii. Attach documentation for the sites implemented by the respective engineers. <i>The engineers proposed here MUST be involved in the implementation of the project if awarded</i>
8.	Electrical/mechanical construction competence	The bidder should have at least National Construction Authority (NCA) 2 category under Electrical/Mechanical. Documentation to be attached.
9.	Builder's works competence	The bidder should have at least National Construction Authority (NCA) 4 category under Builders Works/Contractors. Documentation to be attached.
10.	EPRA licensing for the bidder	The bidder must be an Electrical Contractor licensed by the EPRA, at least class B. Documentation to be attached.
11.	EPRA licensing for bidder's technicians	The bidder must have at least two (2) electrical technicians licensed by the EPRA. Documentation to be attached.
12.	Competence and certification for Occupational Safety and Health	The bidder MUST have certification for Occupational Safety and Health. Documentation to be attached.
13.	Site Survey	The bidder MUST attend a Prebid meeting and carry out a survey for the proposed data center and network infrastructure sites. The Prebid and site survey form MUST be duly signed and stamped by a KCAA staff.
14.	Technical design diagram for the data center	The bidder shall provide a technical design diagram for the proposed data center. The diagram should depict the bidder's understanding of the data center requirements. The diagram MUST have the following attributes: - i. Indicate the data center walls, doors, windows and partitions for the monitoring, equipment and utility rooms ii. Indicate the layouts and placements of server racks, UPSs, battery banks, air conditioners, power boards, AVR, power suppression canisters iii. All units should be in millimetres and clearly labelled iv. The diagram should be in full colour v. All components MUST be drawn to scale

LOT 1 WILL FURTHER CONSIST OF THE FOLLOWING SECTIONS;-

- 1. Section 1 – Remodeling/Modernization of the data center**
- 2. Section 2 – Installation of Clean Power for EASA ICT laboratory**
- 3. Section 3: Migration, Management of live systems/services, Project Management, Keys Management, Training, SLA services and Other Hardware Requirements**

SECTION 1: MANDATORY TECHNICAL REQUIREMENTS AND RESPONSIVENESS CHECKLIST FOR REMODELING AND MODERNIZATION OF THE DATA CENTER

All bidders must meet the following mandatory technical specifications to be considered as responsive in order to proceed to the next stage of evaluation. The bidder **MUST** provide detailed explanations of how they shall fully meet the required technical requirement. Bidders should **NOT** write complied or just tick (✓) against a requirement, a full detailed explanation is required. **ALL THE REQUIREMENTS ARE MANDATORY.**

Table 2 : Design of Space Utilization

Design of space utilization.		
No.	Item	Specifications Required
1.	Detailed layout architectural drawings for the entire data center	<p>Detailed architectural drawings showing how the space will be generally utilized. The drawings should: -</p> <ul style="list-style-type: none"> a. Indicate the placement of the server racks and the air conditioners b. Illustrate the total area of the data center equipment, utility and monitoring rooms c. Illustrate the containment area d. Show the placement and dimensions of the three (3) doors and the window for the monitoring room e. Indicate the hot and cold isles f. Show the placement of AVR, power boards, UPSs, battery banks and fire suppression g. All units should be in millimetres and clearly labelled h. The diagram should be in full colour i. All components MUST be to scale
All Requirements are Mandatory		

i. Expansion of the Data center Area

Figure one (1) below depicting current data center area is a guide to bidders. Bidders **MUST** undertake site survey and design their own diagrams for the expansion of the data center area. The diagram also indicates the proposed expansion area next to the data center which shall be utilized for the expansion of the data center.

Figure two (2) below depicting the proposed data center area inclusive of equipment, utility and monitoring rooms is a guide to bidders. Bidders **MUST** undertake site survey and design their own diagrams for the expansion of the data center area.

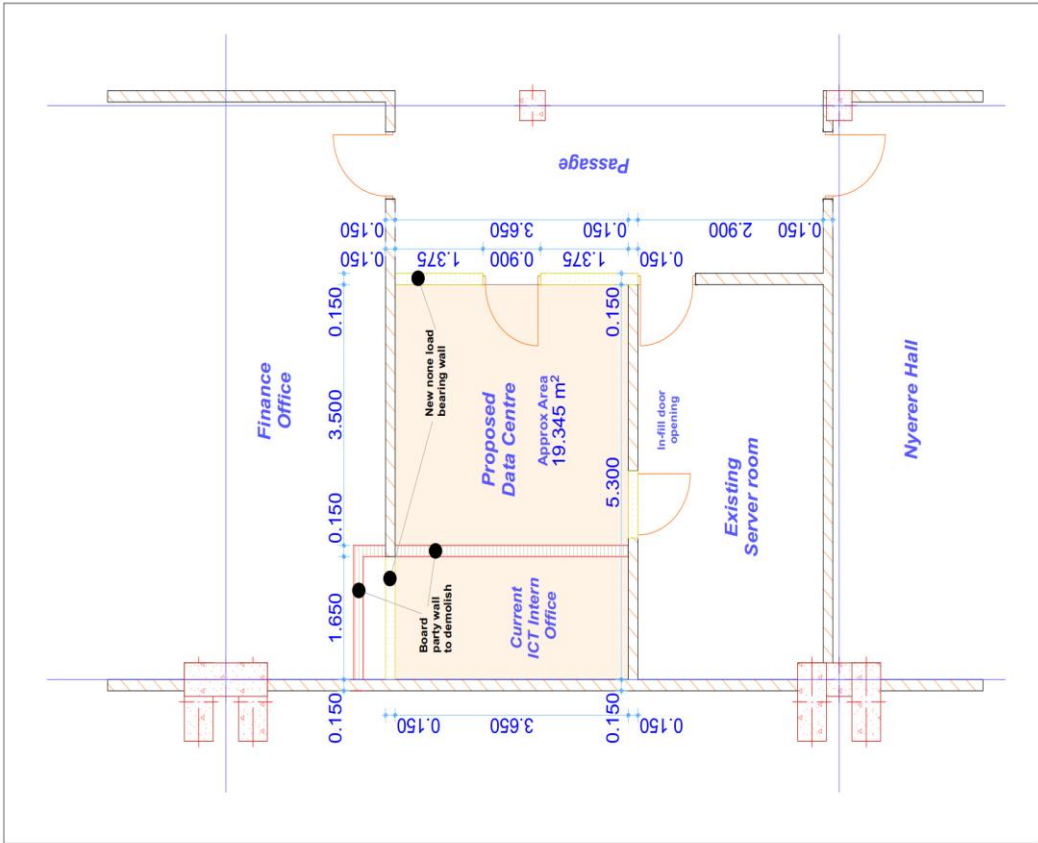


Figure 1: Current data center area including the expansion space

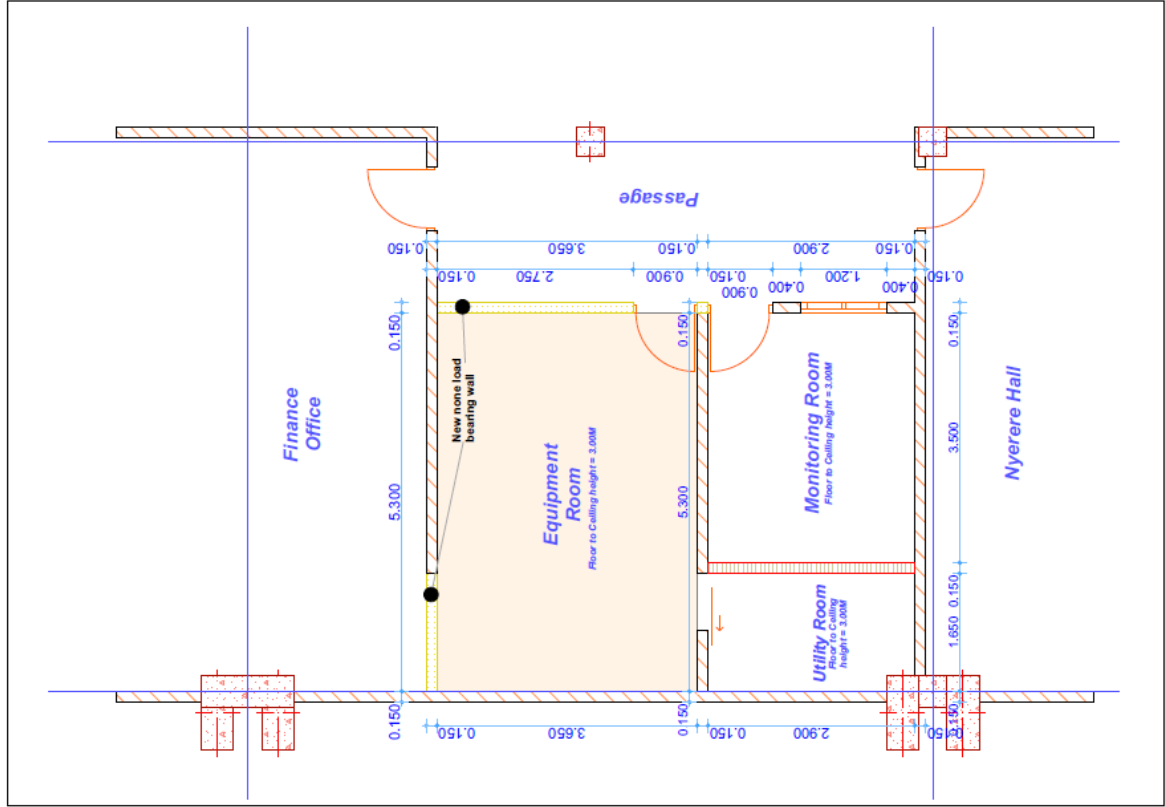


Figure 2: A sketch of the proposed data center indicating the equipment, utility and monitoring rooms

Table 3 : Expansion of data center area

Expansion of data center area		
No.	Item	Specifications Required
1.	Equipment room	a. The length should be approximately 5,300mm b. The width should be approximately 3,650mm c. A data center door to be created in the width next to the passage
2.	Utility room	a. The length should be approximately 1,650mm b. The width should be approximately 2,900mm c. A sliding data center door to be created between the equipment room and the utility room d. Creating the data center to utility room door requires cutting through a concrete masonry wall
3.	Monitoring room	a. The length should be approximately 3,500mm b. The width should be approximately 2,900mm c. A standard door to be created next to the passage d. Creating the door to the monitoring room requires cutting through a concrete masonry wall e. A window to be created next to the passage f. Creating the window for the monitoring room requires cutting through a concrete masonry wall
4.	Height	The height of the proposed data center should be the same as the floor height i.e. from the floor to the concrete slab – approximately 3,500 mm.
5.	Site Survey	A Site Survey Form duly signed and stamped to be attached. All dimensions should be confirmed by the bidders during the site survey.
All Requirements are Mandatory		

iii. Partitioning

The partitioning should be undertaken as per the proposed diagram for the data center design. Any existing partition forming any part of the walls for the proposed data center should be removed and replaced with the required data center partitioning material. The proposed partition medium is MGO Board and in addition to the existing masonry walls. The supporting framework should be aesthetically pleasing. The partitioning framework should be physically strong and maintain the level of fire-rating required for a data center.

Table 4: Partitioning

Partitioning		
No.	Item	Specifications Required
1.	Area to be partitioned	The area to be partitioned includes the equipment, utility and monitoring rooms
2.	Height to be partitioned	The height of the partitioned area should extend from the floor to the concrete slab
3.	Partitioning medium	MGO Board wall lining including screwing to studwork and taping joints in readiness for skimming
4.	Partitioning sizes	c. MGO board from the floor up to a height of 1000 millimetres d. MGO board from a height of approximately 2500 millimetres to the concrete slab
5.	Fire rating	The material used should be fire rated at least 2 hours
6.	Girth	Provide a gypsum/MGO board surfaces girth of at least 100mm but not exceeding 200mm
7.	Interior design	Interior design should be done to ensure that the external partitions of the data center are stylish and aesthetically pleasing for a modern office environment
8.	Proposed interior designs	The proposed designs for the exterior of the data center partition to be provided (photos)
9.	Paint works	d. The current walls to be repainted e. Prepare and apply one undercoat and three finishing coats silk vinyl paint on the walls f. Colour of paint: Soft white or ivory.
All Requirements are Mandatory		

iv. Raised Floor

Remove the current ceramic tiles and prepare the floor to receive Epoxy Industrial floor paint. Prepare surface, prime and apply 1.0 mm Jotafloor or any other equal and approved heavy duty epoxy resin floor finish to screed surfaces strictly in accordance to manufacturer's written instructions. The raised floor is required to provide a means as to how to pass the services as per site requirements. The raised floor system should be fire rated as per EN 13501-01 standards. The raised floor should be “Bergvik Raised Floor Systems”.

Table 5: Raised Floor

Raised floor		
No.	Item	Specifications Required
1.	Floor preparation	<ul style="list-style-type: none"> a. Remove the current ceramic tiles and prepare the floor to receive Epoxy Industrial floor paint. b. Prepare surface, prime and apply 1.0mm Jotafloor or any other equal and approved heavy duty epoxy resin floor finish to screed surfaces strictly in accordance to manufacturer's written instructions
2.	Height of the raised floor	300 mm.
3.	Tiles	<ul style="list-style-type: none"> a. The replacement tiles MUST be Fireproof and anti-static. b. They should be the same colour as the raised floor. c. They should have HPL or equivalent. d. Size: 600 mm by 600 mm.
4.	Raised floor standards	The raised floor system should be fire rated as per EN 13501-01 standards
5.	Lamination	Direct laminate to provide higher wear resistant as well as easier to clean and maintain.
6.	Panel core	Panel Core should be at least 35mm and not more than 40mm in depth.
7.	Electrical resistance	Electrical resistance of greater than 50kΩ
8.	Load	<ul style="list-style-type: none"> a. Concentrated load, temporary deflection of 2.8 mm at 3kN b. At least a 3kN limit at a concentrated load, with a permanent. Deflection of 0.2 mm
9.	Panel properties	<ul style="list-style-type: none"> a. Fireproof b. Waterproof c. Antistatic
10.	Floor size	The entire floor of the data center should be raised i.e. both the equipment and utility rooms
11.	Floor panel lifters	Provide at least two (2) heavy duty suction floor panel lifters
12.	Diagram	<p>The bidders should provide complete diagrams for the raised floor for the proposed data center (both equipment and utility Room). The drawings should:-</p> <ul style="list-style-type: none"> a. Be coloured b. Have all dimensions to scale c. All units should be in millimetres d. Depict the locations of all the pedestals e. Depict the panels and panel sizes
13.	Rodent Repellant	<p>This model is a standalone system (one device) to protect the entire data center. The device should have the following specifications: -</p> <ul style="list-style-type: none"> a. Operating frequency: Above 20 KHz (variable) b. Sound Output: 80 dB to 110 dB (at 1mtr) c. Power Output: 250 mW per d. Power Consumption: 9 Watts e. Power Supply: 230 V AC 50 Hz f. Dimensions: 110mm X 135mm X 200mm g. Weight: 850 grams h. Mounting: Wall
All Requirements are Mandatory		

v. Utility Room Design

Establish a Utility Room by installing an Integrated Battery Rack (IBR) system.

The required IBR system should be a comprehensive battery enclosure which includes all battery connectivity and cabling. All electrical connections should be made at the factory and shipped fully assembled. Batteries should be easily added and connected on site. The IBR system should be easy to install, manage and maintain.

Table 6: Utility Room Design

Utility room design		
No.	Item	Specifications Required
1.	Quantity of battery racks	The bidder should determine the number of racks based on the number of batteries and their respective dimensions. This information should be obtained during the site survey/visit.
2.	Design and built	<ul style="list-style-type: none"> a. The rack should be crafted of powder coated aluminum, resulting in a clean black appearance b. Space saving design with small foot-print c. Front and side guide rails secure batteries
3.	Dimensions	<ul style="list-style-type: none"> a. Height: approximately 2000mm. b. Width: approximately 1200mm. c. Depth: approximately 600mm. d. No. of shelves: At least five (5). e. Shelve height: Approximately 400mm. f. The bidder should determine the best rack dimensions based on the battery sizes and quantity. This information should be obtained during the site survey/visit.
4.	Protection	Overcurrent protection on each battery string for added safety and flexibility. Protective terminal covers.
5.	Rack ventilation	Well-ventilated for increased battery safety and longevity.
6.	Casters	<ul style="list-style-type: none"> a. Phenolic casters allow mobility and will not mark floors. b. Locking floor brake prevents unwanted movement of the unit.
7.	Connecting power cables	<ul style="list-style-type: none"> a. Cables to be provided to connect the batteries to the power board in the Utility Room b. All cables to be managed and trays to be provided as appropriate c. Cabling to be done neatly below the raised floor
8.	Diagram	The bidders should provide complete diagrams for the AVR, battery racks, batteries and power distribution boards. The drawings should: - <ul style="list-style-type: none"> a. Be coloured b. Have all dimensions to scale. c. All units should be in millimetres. d. Depict the locations of all the battery racks e. Illustrate the cable trays and cables paths from the batteries in the racks to the power distribution boards f. Location of the AVR and the power distribution boards
9.	Datasheet	Attach datasheets with photos for the proposed battery racks
10.	Site Survey	Site survey of the Utility Room is mandatory.
11.	Door	A sliding door to be created between the equipment room and the utility room
All Requirements are Mandatory		

i. Monitoring Room Design

Establish a monitoring room that should be occupied by at least three (3) ICT officers.


Table 7: Monitoring Room Design


Monitoring Room Design		
No.	Item	Specifications Required
1.	Monitoring room dimensions	<ul style="list-style-type: none"> a. The length should be approximately 3,500mm b. The width should be approximately 2,900mm c. A standard door to be created next to the passage d. Creating the door to the monitoring room requires cutting through a concrete masonry wall e. A window (1000mm height by 1500mm width) to be created next to the passage f. Creating the window for the monitoring room requires cutting through a concrete masonry wall
2.	Floor and ceiling	<ul style="list-style-type: none"> a. No raised floor required for this room b. 600mm by 600mm high quality tiles to be installed. These tiles should have the same finishing as the raised floor tiles for the equipment and utility rooms c. The ceiling should be the same as the other data center ceilings
3.	Power and networking	The room should have at least six (6) dual data and USB power ports. Four (4) power ports to draw clean power from the data center while two (2) shall have raw power
4.	Diagram	<p>The bidders should provide complete diagrams for the monitoring room indicating the room layout, monitors, working tables, chairs, wall mounted screen, data and power ports. The drawings should: -</p> <ul style="list-style-type: none"> a. Be coloured b. Have all dimensions to scale c. All units should be in millimetres
All Requirements are Mandatory		

i. Monitoring Room Furniture and Equipment

The monitoring room should have four (4) computer chairs, two (2) computer tables with drawers and cable trays, a wall mounted smart screen and two (2) IP phones.

Table 8: Monitoring Room Furniture and Equipment

Monitoring room furniture and equipment		
B. Four (4) computer chairs		
	Item Specifications	Picture
1.	Quantity – Four (4)	
2.	Functioning high back swivel fixed armrest adjustable lumbar back support, mesh back and leather seat	
3.	Orthopaedic Chair	
4.	Mesh Back	
5.	Black Fabric Seat	
6.	Adjustable Headrest	
7.	Adjustable Lumbar Support	
8.	Adjustable 4D arms	
9.	Seat Slider	
10.	Height Adjustable	
11.	Tilt and locking,	
12.	5 Star Chrome base and castors	

B. Two (2) Computer tables with lockable drawers		
9.	Solid wood construction	
10.	White solid core laminate for the tables	
11.	All areas MUST be scratch and chip resistant	
12.	Black solid core laminate for the drawers	
13.	Work surface area should be 2000mm length by 700m width	
14.	Work surface should be 700mm height	
15.	The drawers MUST be lockable with three (3) sets of keys	
16.	MUST have cable trays for power and network	
B. Overhead Monitor for Observation of Data center Metrics		
17.	Quantity	One (1)
18.	Screen Size	At least 62 Inch QLED Smart Screen
19.	Make and Model	<ul style="list-style-type: none"> ▪ Samsung or equivalent. ▪ Make and Model to be clearly specified ▪ Product datasheets to be provided
20.	Layout	Flat
21.	Resolution	ULTRA HD(4K)
22.	Backlight	QLED
23.	LAN Support	Built-In
24.	Wi-Fi Support	Built-In
25.	Other Supported Interface	<ul style="list-style-type: none"> ▪ Mira Cast ▪ Mobile HD Link ▪ Wi-Di ▪ Wi-Fi Direct
26.	Ports	<ul style="list-style-type: none"> ▪ HDMI - 3 ▪ USB – 3 ▪ Component and AV
27.	OS	NetCast 4.5
28.	Processor	LM 14
29.	Other Requirements	<ul style="list-style-type: none"> ▪ Remote Control ▪ Built-in micropixel control ▪ Resolution Upscaler
30.	Multi-display mode	<ul style="list-style-type: none"> ▪ The smart screens should be mounted next to each other. ▪ They should be configured such that they are displaying the same content. This configuration should be flexible to remove easily on need basis.
31.	Service Requirements	<ul style="list-style-type: none"> ▪ Installation and mounting of the Screens ▪ The mountings and all cabling should be in-wall trunked and professionally installed
32.	Warranty	One (1) year warranty
All Requirements are Mandatory		

viii. Ceiling

EASA intends to install a strong ceiling system that will not only hold the lighting fixtures, but one that can carry weight of services like power and data connections.

Table 9: Ceiling

Ceiling		
No.	Item	Specifications Required
1.	Ceiling size	a. The ceiling should cover the entire data center i.e., the equipment, utility and monitoring rooms. b. The ceiling height should be 200mm from the concrete slab.
2.	Colour	White.
3.	System data	a. Extrusion Material: Extruded aluminum. b. Extrusion Alloy: 6106. c. Weight: 1 kg per lineal meter. d. Connector material: Zinc aluminum alloy.
4.	System weight	600x600 mm grid configuration = 5.0 kg/m ² .
5.	Load ratings	a. 53 kg at the center of the longer span. b. 79 kg at 305 mm from a supported connector. c. 285 kg minimum directly under a supported grid connector.
6.	Distance measuring tools	Two (2) handheld distance measuring tool – HILTI PD5.
7.	Diagram	The bidders should provide complete diagrams for the ceiling design for the proposed data center. This should include the equipment, utility and monitoring rooms. The drawings should: - a. Be in colour. b. Have all dimensions to scale. c. All units should be in millimetres. d. Depict the locations of all the connectors. e. Depict the panels and panel sizes.
All Requirements are Mandatory		

ix. Lighting System

New LED lights to be installed in the data center. All lighting should support emergency purposes i.e. emergency lighting. The lights in the data center should be motion sensor controlled.

Table 10 : Lighting System

Lighting system		
No.	Item	Specifications Required
1.	Area to be lit	The entire data center i.e., the equipment, utility and monitoring rooms
2.	Colour	White, both the light and the emission
3.	Technology	LED
4.	Description of the lights	a. LED Ceiling Panel Lights b. Measuring approximately 600 mm x 600 mm i.e. to fit into a ceiling Panel. c. The frame should be white chrome or equivalent. d. Lumens delivered: Approximately 3,125LM. e. Watts per light: 25.
5.	Number of Main Lights	a. Equipment Room – 6. b. Utility Room – 2. c. Monitoring Room – 2.
6.	Number of Emergency Lights	a. Equipment Room – 2. b. Utility Room – 1. c. Control Room – 1.
7.	Light Switches	a. Three two-way switches to be provided. b. Four (4) motion sensors to be provided to turn-on the lights when there's movement and vice-versa. Two (2) in the equipment room and one (1) each for the monitoring and utility rooms.
8.	Diagram	The bidders should provide complete diagrams for lighting and associated connectivity for the proposed data center (equipment, utility and monitoring rooms). The drawings should: - a. Be coloured. b. Have all dimensions to scale. c. All units should be in millimetres. d. Depict the locations of all the lights, switches and connectors. e. Depict the location of the motion sensors.
All Requirements are Mandatory		

x. Data center Door – Equipment Room

The main entrance door should be strong to resist physical force to break-in. It should be fire resistant and comprising of door leaf with mineral fiber or gypsum plaster board core lined with galvanized, primed and painted sheet metal facing 1.5mm thick on both sides.

Table 11 : Data center Door – Equipment Room

Datacenter door – Equipment Room		
No.	Item	Specifications Required
1.	Dimensions	Approximate dimensions: width – 1000mm x height 2100mm.
2.	Description	The fire-resistant door set comprising door leaf with mineral fiber or gypsum plaster board core lined with galvanized, primed and painted sheet metal facing 1.5mm thick both sides, hinge plate, hinges, 2.0mm thick galvanized, primed and painted corner covering frames, fire proofing strips, all to DIN 4102, DIN 52210, DIN 18095.
3.	Locking Mechanism	a. 2 point vertical locking device. b. Provide physical lock with three (3) sets of keys. c. The door should open outwards. d. The door will have magnetic locks controlled by a biometric based access control system.
4.	Diagram	Attach a coloured photo of the proposed door.
5.	Accessories	The following accessories should be supplied with the door: - a. Overhead door closer: cat. No.8823.
All Requirements are Mandatory		

xi. Connecting Door – Connecting the Utility Room and the Equipment Room

The connecting door should be a sliding door strong to resist physical force to break-in. The door should be made of tough transparent fire-resistant glass.

Table 12 : Connecting Door – Connecting the Utility Room and the Equipment Room

Connecting door – Connecting the utility room and the equipment room		
No.	Item	Specifications Required
6.	Dimensions	Approximate dimensions: width – 1000mm x height 2100mm.
7.	Description	A sliding door made of tough fire-rated glass panels. The panels should be transparent.
8.	Locking mechanism	c. The door opens and closes automatically d. It should also be lockable with keys
9.	Diagram	Attach a coloured photo of the proposed door
10.	Accessories	Any other required accessories.
All Requirements are Mandatory		

xii. Monitoring Room Door and Window

The monitoring room door should be strong to resist physical force to break-in. It should be comprising of door leaf with mineral fiber or gypsum plaster board core lined with galvanized, primed and painted sheet metal facing 1.5mm thick on both sides.

Table 13 : Monitoring Room Door and Window

Monitoring room door and window		
No.	Item	Specifications Required
1.	Dimensions	Approximate dimensions: width – 1000mm x height 2100mm.
2.	Door Description	The standard door set comprising door leaf with mineral fiber or gypsum plaster board core lined with galvanized, primed and painted sheet metal facing 1.5mm thick both sides, hinge plate, hinges, 2.0mm thick galvanized, primed and painted corner covering frames, fire proofing strips, all to DIN 4102, DIN 52210, DIN 18095.
3.	Window description	<ul style="list-style-type: none"> a. The window should measure 1000mm height by 1500mm width. b. Overall frame depth 4-1/2". New construction frame with continuous integral fin, or replacement frame with double-wall flush flange. c. Frame members are mitered, and heat fused to provide a fully welded corner assembly. d. Interior and exterior frame surfaces extruded, rigid uPVC. e. The opening mechanism of the window is sliding with 2-panels. f. The window should have toughened one-way see glass. g. Vent panel is fully operable for ventilation. h. All fasteners are a corrosion-resistant material compatible with PVC. i. Rollers are adjustable, permanently-sealed, electroplated steel with organic coated ball-bearing rollers. j. Chrome white in colour.
4.	Window locking mechanism	2-point vertical locking device.
5.	Window security	<ul style="list-style-type: none"> a. The window should have a metal grill in the inside. b. The grill colour should be white.
6.	Door locking mechanism	<ul style="list-style-type: none"> a. 2-point vertical locking device. b. Provide physical lock with three (3) sets of keys. c. The door should open outwards. d. The door will have magnetic locks controlled by a biometric based access control system.
7.	Diagram	Attach a coloured photo of the proposed door and window.
8.	Accessories	The following accessories should be supplied with the door: - Overhead door closer: cat. No.8823.
All Requirements are Mandatory		

xiii. Server Racks

Five (5) Intelligent Server Racks are required. All racks to have intelligent PDUs with enough capacity to dual power all devices (estimated 20 devices) within the rack. Each rack should have an IP based KVM switch and a monitor to serve all console and keyboard functions for devices within the rack.

Table 14 : Server Racks

Server racks		
No.	Item	Specifications Required
1.	Quantity	Five (5) Server Racks/Cabinets, each with 42U 1200 mm Deep Dynamic Rack.
2.	Make and Model	a. APC NetShelter or Equivalent. b. Coloured product datasheets to be attached.
3.	Design and Build	a. Heavy steel construction with all sides perforated. b. With castors and breaking latches. c. Dimensions: 1200mm depth by 600mm width by 2000 mm height.
4.	Blanking Panels	2U Blanking panels to be provided for all the spaces that will remain open after deployment of servers and equipment.
5.	Monitor	a. The monitor MUST be the same make and model as the Server Rack. b. At least 21-Inch high definition high resolution console. c. The screen should be touch enabled. a. Should have a keyboard and touch pad for controlling rack servers using the KVM Switch. b. Tool-less installation. c. Sliding rail kits should be supplied and installed. d. 1U.
6.	Each Rack to be fitted with POU's with the following Specifications	a. High temperature rating up to 60oC. b. Input Power 32A. c. Max. Capacity; above 22kW. d. Outlet Options NEMA 5-20; IEC 320 C13 / C19. e. Outlet Ports; at least 24 ports. f. Modular hot swappable controller card. g. Bistable/normally closed relays. h. Metering of key electrical parameters with +/-1% accuracy. i. Support of remote authentication protocols (LDAP, Active Directory, Radius, Kerberos, TACACS+) and encryption. j. Consolidate Rack Level Power and environmental Monitoring. k. POU to have capability of Data Analysis and Trend reporting.
7.	KVM Switch	a. MUST be the same make and model as the Server Racks. b. Switch Technology: Digital KVM over IP. c. Form Factor: 1U. d. Local Users: 2. e. Remote Users: 2. f. Device Ports: At least 16. g. Sliding rail kits should be supplied and installed.
8.	Frame, doors and construction	a. Six side wall compartments. b. Split rear doors. c. Standard front and side stabilizers.
9.	Rack Dimensions	a. Height (In./mm): 78.74/2000. b. Width (In./mm): 23.82/605. c. Depth (In./mm): 47.24/1200. d. Should be Ship Loadable.
10.	Cable Exits	a. Side cable trays. b. Top cable and bottom cable exits.
11.	Services and other accessories	a. The Servers should be mounted in the Server racks. b. PDUs should be mounted in each Server Rack. The power should be drawn from a UPS via the PDUs input cords. c. The monitors and the KVM switches should be mounted and tested. d. The rack should have optimized zero U mounting for simplified cable management, reduced installation time and increased accessibility.
12.	Warranty	1-year customer replaceable unit and on-site limited warranty, next business day 9x5, service upgrades available.
All Requirements are Mandatory		

xiv. Power Configuration and Management

It is required that the power in the datacenter is well managed to ensure that all the active devices are running throughout. The load will be well balanced and all the cabling well done.

Table 15 : Power Configuration and Management

Power configuration and management		
No.	Item	Specifications Required
1.	Power Distribution Board (PDB)	High end (Havels or Equivalent) PDB in the utility room.
2.	Cabling	a. Standard power cabling to the Distribution Board. b. The estimated distance is thirty (30) metres. Bidders should affirm this length from a mandatory site survey.
3.	Load Balancing	Ensure the Power is distributed well in the data center to achieve load balancing.
4.	Diagram	Attach a diagram of the proposed power distribution.
5.	Terminals and Circuit Breakers	Supply all the power terminals and circuit breakers as per the power ratings.
6.	Connections	Ensure the power is connected to the AVR through the changeover units with bypass option.
7.	Labelling	Labelling of all the power units must be done.
8.	Wall Sockets	c. Provision of eight (8) double Crabtree or equivalent sockets four at the back and the other four in front. d. Four of the dual sockets should have clean power, two at the back and the other two at the front.
9.	Powering Access Switches	All floor access switches should be powered from each load group.
10.	Accessories	Supply all the accessories required for the works.
All Requirements are Mandatory		

xv. UPSs

The Data center will require two (2) 80 KVA UPSs which will have a runtime of at least sixty (60) minutes on full load. The UPS will be connected in parallel and the load balanced. The detailed specifications are as below: -

Table 16 : UPSs

UPS		
No.	Item	Specifications Required
1.	Quantity	Two (2) Industrial type UPSs (Tripplite or equivalent), each 80KVA.
2.	Make/Model	The make and model should be clearly indicated.
3.	Manufacturer's Authorization	Manufacturer's authorization MUST be provided.
4.	Output	a. Output kVA Capacity (kVA): 80. b. Output kW Capacity (kW): at least 80. c. Nominal Output Voltage(s) Supported: 220/380V 3-PH; 230/400V 3-PH; 240/415V 3-PH.
5.	Input	a. Nominal input Voltage(s) Supported - 220/380V 3-PH; 230/400V 3-PH; 240/415V 3-PH. b. Hardwire connection type. c. Input phase – Three phase.
6.	LEDs, LCDs and alarm.	a. LED Indicators - LEDs indicate line power, online mode, economy/bypass mode, on-battery, charger and AC output status. b. Front panel LCD Display - Selectable LCD display with scroll and selection buttons. c. Audible alarm with cancel operation.
7.	Switches	ON / ENTER BUTTON: turns the UPS on and confirms a selection from the settings menu; OFF / ESC BUTTON: turns off the UPS and returns to the previous item in the settings menu; TEST / UP BUTTON: initiates UPS self-test operation and advances to the next item in the settings menu; MUTE / DOWN

UPS		
No.	Item	Specifications Required
		BUTTON: silences the audible alarm and advances to the previous item in the settings menu; Press TEST/UP & MUTE/DOWN buttons simultaneously for 1 second to enter or exit the settings menu.
8.	Form Factor	a. Rack mountable is preferred. b. Mounting accessories.
9.	High Availability UPS Features	Automatic inverter bypass; Manual bypass switch; Detachable hot-swap PDU; Hot swappable UPS power module; Hot swappable batteries.
10.	Battery type	a. Valve Regulated Lead Acid (VRLA)—Maintenance-free, sealed, leak-proof. b. Should have an option for external battery pack.
11.	Full Load Runtime (min.)	60 min (27kW).
12.	Half Load Runtime (min.)	120 min. (13.5kW).
13.	Expandable Battery Runtime	Supports extended runtime optional external battery pack.
14.	External Battery Pack Compatibility	The battery pack should be able to support the number of batteries to achieve the required runtime.
15.	Interface port	USB HID Port/Serial/Optional LAN Card.
16.	Smart Management	a. UPS Manager Software should be included. b. MUST be able to be managed through the network via a browser.
17.	Efficiency	95% minimum at full rated load—normal operation, not during battery recharge.
18.	Operating temperature	0°C (32°F) to +40°C (104°F).
19.	Grouping/Stacking	a. The UPS should be stacked into two load groups of 1 or more UPSs each. b. Each load group should be able to provide 80KVA or more and should be able to run the data center independently. c. These groupings should be named into A and B.
20.	Configuration and outputs.	a. Power from each UPS load group should be fed into different PDUs in the Server Racks to attain high availability (no single point of failure). b. The connections should be done by utilizing the raised floor. c. Each server rack PDU should receive power from each UPS load group.
21.	Load Balancing	The configuration of the UPS load groups should be such that there is automatic load balancing.
22.	Scalability	The configuration should be done such that with more equipment, growth can be accommodated.
23.	Racking	a. The UPS battery banks should be installed in the utility room. b. The racking should be such that it leaves room for future expansion.
24.	Services and other Accessories	a. The bidder should provide all cables with right ratings (as per applicable electrical standards) and other accessories required to install, configure, test and operationalize the UPSs. b. Mounting the UPSs into the Racks, connecting them with Mains electricity supply and powering the Rack PDUs.
25.	Diagram	The bidders should provide complete diagrams for the UPSs and battery banks. The drawings should: - h. Indicate the placement of the UPSs in the data center i. Indicate the placement of the battery banks in the utility room j. Indicate the load groups A and B and the respective distribution to all the racks k. The power cabling for each load group should be coloured differently l. The diagram should be coloured m. Have all dimensions to scale n. All units should be in millimetres
26.	Warranty	3-year customer replaceable unit and on-site limited warranty, next business day 9x5, service upgrades available
All Requirements are Mandatory		

xvi.AVR

Supply, installation, configuration and testing of an Automatic Voltage Regulator (AVR). An AVR is required to ensure that the power feeding the UPSs is automatically regulated and stabilized to protect the UPSs and other vital equipment within the Data center. The AVR required should be at least 100KVA and the specifications are as below: -

Table 17 : AVR

AVR		
No.	Item	Specifications Required
1.	Quantity	One (1)
2.	Make and Model Number	Must be indicated
3.	AVR Capacity	100KVA
4.	Manufacturer's Authorization	The bidder should provide a manufacturer's authorization from the original equipment manufacturer
5.	Power	100kVA/Three Phase Voltage Correction: Input: 400V ± 20%; Output: 400V ±0.5%.
6.	Specific Equipment to be Supported	The key equipment expected to be supported by this AVR are as follows: - <ul style="list-style-type: none"> ▪ Two (2) 100KVA 3-phase UPSs. ▪ Two (2) industrial air conditioners. ▪ Other equipment and devices.
7.	Product Datasheets	The bidders shall provide detailed and colored product datasheets with photos of the equipment.
8.	Design Diagrams	The bidders shall provide detailed colored design drawings of how the AVR will be interconnected from the Mains to the power distribution boards in the utility room to the equipment. It should also show the position of the AVR in the Utility room. This diagram should be drawn to scale depicting all the dimensions.
9.	Displays	Modern state of the art LED display to indicate the state of the input at all times and LEDs to indicate the output voltage going to the load. The loading on the AVR is indicated by a further LEDs.
10.	Connectivity Cables	All required power cables (East African Cables/Met sec or equivalent) to be provided. This will be precisely determined during the site survey.
11.	Cable Utilization	For providing connectivity between the AVR to the power board. For wiring of the Stabilizer and interconnection cables between the stabilizer and mains. The length of the cable to be determined by a MANDATORY site survey.
12.	Manual Change Over	200 AMPS Manual Change Over, Havels or equivalent.
13.	Powering the AVR	250 AMPS MCCB, Schneider or equivalent.
14.	Accessories	All connecting accessories required to fully install, connect and operationalize the AVR should be provided.
15.	Works and Labour	All labour and works and equipment required like folk lifts, manual labour etc should be provided by the bidder.
16.	Remote Monitoring	The equipment should have the capability to be monitored remotely.
17.	Technical Documentation	The bidder shall provide technical documentation of the site installation as well as original manufacturer's documentation.
18.	Warranty	Three (3) years warranty is expected. This warranty should cover spares and next business day onsite ProSupport.
All Requirements are Mandatory		

xvii. Precision Air Conditioning

Supply, installation, testing and commissioning of DX Type air-conditioning Units. They should be designed specifically for high sensible heat ratio with variable cooling technique to match the low latent loads of systems to be installed in the integrated cabinet for effective and uniform distribution of cooling. We would like to achieve a Cold/Hot containment and the supplied Cooling Unit should be well suited for this application. To achieve this, we require a CyberRow Cooling. This innovative technology is able to provide targeted cooling of racks. The air-conduction should be done in a horizontal direction with all the server racks positioned between the two (2) in-row type air-conditioners.

Table 18 : Precision Air Conditioning

Precision air conditioning		
No.	Item	Specifications Required
1.	Quantity	Two (2) In-Row air conditioners
2.	Cooling Technology	CyberRow DX with horizontal air conduction.
3.	Make and Model	a. STULZ CRS/CRL 251 AS/GS or Equivalent. b. Coloured product datasheets to be attached.
4.	Cooling Capacity	At least 25.3 kW.
5.	Dimensions	a. Height: 1950 mm. b. Depth: 1,175/1,375 mm. c. Width: 400 mm.
6.	Refrigerant	All units equipped with direct expansion circuit are suitable for R410A refrigerant.
7.	Cabinet and Frame	The unit shall be powder painted panels with ½” (or 10mm) insulation. A hinged control access panel opens to a second front panel which is a protection enclosure for high voltage components. The frame is painted with a powder coat finish to protect against corrosion. The unit is totally front and rear accessible including any component removal.
8.	Air Flow	5,400 M ³ /Hr.
9.	Management and Monitoring	a. There should be SNMP and HTTP/Web-management capability for enhanced communications and control of HPM systems. The cards make use of an Ethernet network (10/100Mbit) to monitor and control a wide range of operating parameters, alarms and notifications thanks to a standard web browser. b. The unit shall also include input volt-free contacts for simple remote monitoring of low and high priority alarms: high/low temperature, high/low refrigerant pressure, fan/control failure, compressor/control failure and others are available.
10.	Fans Section	Units to be provided with two plug EC Direct Drive Fan, High efficiency, external rotor electronically commutated (EC) motor with integrated electronics, True soft start characteristics (inrush current lower than operating current), Backward curve, corrosion resistant aluminium fan wheel, Maintenance free design and construction.
11.	Cooling Circuits – Direct Expansion	<ul style="list-style-type: none"> ▪ One refrigeration circuit, incorporating a high efficiency, fully hermetic variable capacity compressor with crankcase heater, safety valve, filter drier, moisture indicating sight glass, liquid line solenoid valve and an externally equalized expansion valve. Each compressor to be equipped with pre-set high and low pressure switches for protection against high condensing and low evaporating temperatures.
12.	Air Filtration	The filter to be made of two deep pleated 4” filters rated MERV8 following ASHRAE 52.2 (45% by ASHRAE 52.1) or G4 following EN779, located within the cabinet, and accessible from the rear of the unit. Frame of the filter shall be made of galvanized steel.
13.	Condenser	The condenser should be with fan speed controller designed & set for usages of R410A refrigerant. Condenser should be worked -20 degrees C to 46 degrees C ambient temperature.
14.	Humidifier	The unit should be fitted with an canister type steam humidifier suitable for use with water of varying degrees of hardness, provided that the water is not treated or demineralized.
15.	Containment area	a. A containment area to be created. b. The unutilized server racks space should be blacked using blanking panels.
16.	Services and other accessories	a. Site survey is mandatory. b. Bidders should establish from the site survey how the external units shall be installed. c. All the drilling necessary for placement of the external units should be factored in the cost.
17.	Diagrams	Detailed design drawings showing how the precision cooling will be implemented. The drawings should: - <ol style="list-style-type: none"> a. Be coloured. b. Have all dimensions to scale. c. Indicate the placement of the server racks and the air conditioners. d. Illustrate the total area of the data center equipment room. e. Illustrate the containment area. f. Indicate the air flow from the air conditioners to the hot and cold isles. g. Indicate the placement of the internal and external units. h. All units should be in millimetres.
18.	Warranty	3-year customer replaceable unit and on-site limited warranty, next business day 9x5, service upgrades available.
All Requirements are Mandatory		

xviii. Fire Detection and Suppression

The specifications are as follows: -

Table 19 : Fire Detection and Suppression

No.	Requirement/Specification
Fire detection and suppression	
1.	<u>Fire Extinguishant control panel</u>
	Extinguishant control panel
	Mains supply 230V AC, 50Hz +10% -15% (100 Watts maximum)
	Mains supply fuse F3A 250V TD 20mm. (Replace only with a fuses of the same type).
	Power supply rating I _{max} a 1.7A
	Power supply rating I _{max} b 5A
	Operating voltage 18 to 30 volts DC
	Battery charging circuit impedance R _{imax} 1.0
	Minimum output current for correct operation I _{min} 10 milliamps
	Maximum ripple current 1.5+/- 0.3
	Volts Battery type Yuasa NP 7Ah or NP 12Ah, Flame retardant UL94:V-0 Battery charge voltage 27.6V DC nominal (temperature compensated)
	Battery charge current 1.25A max
	Maximum current draw from batteries 7 Amps
	Aux 24V output rating (CIE) 100 milliamps maximum load (fused at 500 milliamps)
	Aux 24V output rating (ECD) 100 milliamps maximum load (fused at 500 milliamps)
	Sounder output rating (CIE two outputs) 500 milliamps each (fused at 1A)
	Sounder output rating (ECD two outputs) 500 milliamps each (fused at 1A)
Relay contacts 30V DC, 1 Amp maximum	
Detection loop current 400 milliamps	
maximum Extinguishant release outputs (2 per extinguishing module) 18 to 30V DC. Fused at 1 Amp	
Extinguishant release delay Adjustable 0 to 60 seconds (+/- 10%)	
Extinguishant release duration Adjustable 60 to 300 seconds	
ECD Monitored inputs normal threshold (Allowable EOL) 10K ohm to 2K ohm	
ECD Monitored inputs alarm threshold 2K ohms to 150 ohms +/- 5% ECD	
Monitored inputs Short circuit threshold 140 ohms to 0 ohms +/- 5% ECD	
Status unit/Ancillary board connection Two wire RS485 connection (EIA-485 specification)	
Status unit/Ancillary board power 24V (3 maximum per ECD module)	
Wire size: minimum 1.5 ² mm	
2.	Manual Fire Alarm Pull Stations
	UL/ FM Approved
	Switch contact ratings: gold-plated; rating 0.25 A @ 30 VAC or VDC
	Manual Fire Alarm Stations shall be non-code, with a key- or hex-operated reset lock in order that they may be tested, and so designed that after actual Emergency Operation, they cannot be restored to normal except by use of a key or hex
	An operated station shall automatically condition itself so as to be visually detected as activated. Manual stations shall be constructed of red coloured LEXAN (or polycarbonate equivalent) with clearly visible operating instructions provided on the cover
3.	Photoelectric Smoke Detectors
	Photoelectric smoke detectors
	Operating Voltage 24 - 41 VDC
	Standby Current 450µA
	Alarm Current 540µA
	Transmission Method DCP - Digital Communication Protocol
	Maximum Humidity 95% RH Non-Condensing
	Ambient Operating 32°F to 120°F Temperature (0°C to 49°C)
	Sensitivity Range 0.7-4.0%/FT@300FPM
	UL Listed FM Approved
	LED current: 6.5 mA @ 24 VDC (latched "ON")
	Air velocity: 4,000 ft. /min. (20 m/sec.) maximum
	Diameter: 6.1" (15.5 cm) installed in B350LP base
Height: 2.1" (5.33 cm) installed in B350LP base	
Weight: 3.6 oz. (102 g).	
4.	HOOTER / Mini-Horns
	UL and ULC Listed CSFM, MEA and FM Approved, LPCB
	Operating Temperature Range: 0°C to 49°C (32°F to 120°F)
	Mounting: Surface: Deep single-gang backbox (2-3/4" deep)

No.	Requirement/Specification
Fire detection and suppression	
5.	<p>Electrical Specifications</p> <p>Input Terminals: 12 to 18 AWG</p> <p>Nominal Voltage: Regulated 12DC/FWR or 24DC/FWR</p> <p>Operating Voltage: 8-33</p> <p>Operating Voltage with MDL3R/W: 9-33</p> <p>Drain on external supply: 2 mA maximum (using internal EOL relay).</p> <p>EOL resistance: 47K ohms</p> <p>Temperature range: 32°F to 120°F (0°C to 49°C).</p> <p>Humidity range: 10% to 93% non-condensing</p> <p>Fire Suppression System</p>
6.	<p>Clean Agent</p> <p>3M™ NOVEC™ 1230 CLEAN AGENT.</p> <p>UL and ULC Listed</p> <p>FM and LPCB approved</p> <p>NFPA 2001 standard</p> <p>Zero Ozone depletion potential</p> <p>Electrically nonconductive</p> <p>Safe concentration levels required to extinguish fire</p> <p>Effective performance on class A, B and C</p> <p>Fire Detection is not the complete Fire Protection Solution</p> <p>Original Equipment Manufacturers (OEMs) for NOVEC 1230 equipment authorized and certified to install and market NOVEC 1230 Fire protection.</p>
7.	<p>Specific Technical Requirements</p> <p>The Storage Container offered shall be of seamless type and not Welded.</p> <p>The NOVEC 1230 valve, operating actuators shall be an Electric (Solenoid) type and should be capable of resetting manually. Provision should be provided on the Electric Control Head for a Manual Lever for over-ride in case of failure of the Electrical components. The Electric Control Head (Actuator) shall operate at 24 VDC. Vendors are required to submit confirmation for the same and provide the technical data sheet for the same. The Electric Control Head should be capable of being functionally tested for periodic servicing requirements, and without any need to replace consumable parts.</p> <p>The system flow calculations shall be carried out on certified software, approved and suitable for the design of the NOVEC system being offered. The System flow calculations shall be carried out by the OEM and only such vetted calculations shall be admissible for approval in this project</p>
8.	<p>General Technical Requirements</p> <p>NOVEC 1230 design should consider and address Fire hazards within total protected volume including all voids providing highest degree of protection and minimum extinguishing time as per NFPA 2001 standard</p> <p>The NOVEC 1230 Fire Suppression System shall include a detection and control switch provision for both pre-alarm and automatic agent release</p> <p>The NOVEC 1230 System to be supplied by the vendor must be strictly in accordance with OEM's product design criteria</p> <p>The detection and control system that shall be used to trigger the fire suppression system</p> <p>NOVEC 1230 suppression shall be linked to the photoelectric and ionization smoke detectors. A single detector in one zone activated, shall cause an alarm signal to be generated</p> <p>Another detector in the second zone activated, shall generate a pre-discharge signal and start the pre-discharge condition</p> <p>The discharge nozzles shall be located in the protected volume in compliance to the limitation with regard to the spacing, floor and ceiling coverage etc. The nozzle locations shall be such that the design concentration will be established in all parts of the protected volumes</p> <p>The Cylinders shall be equipped with differential pressure valves & No replacement parts shall be necessary to recharge the NOVEC 1230 containers</p> <p>NOVEC 1230 shall be discharge through the operation of an Electric (Solenoid) operated device which releases the agent through a differential pressure valve. Systems that employ explosive or pyrotechnic device shall not be permitted</p> <p>All system components shall be New and of Current manufacture and shall be installed in accordance with local codes. The Buyer, or the End user of this system reserves the Exclusive Rights to unconditionally reject any and all such components which may not be, or are suspected not to be of current manufacture; and / or on the grounds of authenticity of the system components and designs</p> <p>The vendor shall provide IN ORIGINAL all documentation such as Cylinder Manufacturing Certificates, Test and Inspection Certificates & Fill Density Certificates</p>
9.	<p>The extinguishing system shall include the following components:</p> <p>NOVEC 1230 NF22180200 Container 25b TPED with solenoid inc brk</p> <p>NF285022 Pressure Gauge/Switch 50mm 25b 22.5b falling, NO lowP-Eu Novec Clean agent storage cylinder pressure gauge)</p> <p>NF280210A- Discharge pressure switch - 2b inc hose</p> <p>NF1230 3M Original Novec 1230kg</p>

No.	Requirement/Specification
Fire detection and suppression	
	NF26020 Pneumatic Actuator NF290211F - Manual Release sign FK-5-1-12 Foamex NF 32010212A Pilot CYL 10LT 200Bar IG100-Std Valve Inc. Outl. NF36010A Solenoid actuator (no diode) Inc Plug/Reset T/man NF361001 Inertech Bleed Valve Assembly NF2349550N NPT 49mm discharge Hose NF2349080 - 49mm Discharge outlet - spacer extension 80mm NF 24492-1 49mm discharge check valve (NPT & BSP) NF370600 Intertech Actuation hose (600) NF37005K Intertech actuation house Slave valve 5m NF251522 BSP Nozzle 15mm 360 - Drilled brass NF252022 BSP Nozzle 20mm 360 - Drilled brass NF254022 BSP Nozzle 40mm 360 - Drilled brass NF3291267 Single Row Cyl Strap NF290111 Sign Caution FK-5-1-12- Foamex NF22000613F Label Fill FSL 1230 -French NF201212 Chemical Gas Vent
	Systems containing component that have a dated life span and must be periodically replaced shall not be acceptable
	The releasing device shall also be capable of direct mechanical actuation, providing a means of discharge in the event of total electrical malfunction
	Provided with a manual lever and a faceplate with clear instruction of how to mechanically activate the system. In all cases, NOVEC 1230 cylinders shall be fitted with a manual mechanical operating facility that requires two-action actuation to prevent accidental actuation
	Release of NOVEC 1230 agent shall be accomplished by an electrical output from the Novec 1230 Gas Release Panel to the Electric control head release device and shall be in accordance with the requirements set forth in the current edition of the National Fire Protection Association Standard 2001
10.	Size and placement of cylinders:
	Data Centre
	NOVEC 1230 80 Litre 25/42 bar agent storage cylinder as NF2280201 or equivalent.
11.	VESDA
	XT-VLP VESDA laserplus complete with Air sampling kits, capillary tube and labels.
	Listing and approvals- UL/ULC/FM/LPCB/VDS AND EN54-20
	Supply voltate:- 18-30VDC Power consumption @ 24VDC IP rating: IP30
	Operating Conditions: Tested to: -10°C to 55°C (14°F to 131°F) Detector Ambient: 0°C to 39°C (32° to 103°F) Sampled Air: -20° to 60°C (-4° to 140°F) Humidity: 10%–95% RH, non-condensing
12.	Integration of fire suppression to access control
13.	The suppression system shall be integrated to the data center environmental monitoring system and access control
14.	The bidders should provide complete diagrams for the fire detection and suppression system. The drawings should: - a. Be coloured. b. Have all dimensions to scale. c. All units should be in millimetres. d. Depict the locations of all fire suppression and detection equipment
	All Requirements are Mandatory

xix.Data center Networking

The data center should have excellent cable organization within the floor racks. The goal is to provide standard cabling in the data center. The bidder will provide labelling for the cables. Below are minimum specifications for the cordage network and cordage requirements: -

Table 20 : Data center Networking

Datacenter networking		
No.	Specifications Required	
1.	Network design diagram	The bidder should provide detailed network designs. These designs should entail the following components: - a. The redundant core switches, stacking and interconnectivity. b. The core switch and access switches (for first floor and finance) placement within the five (5) racks. c. Each of the detailed designs drawings for the above four components should be coloured, have all dimensions to scale and all units should be in millimetres.
2.	Unshielded Twisted Pair (UTP) Cordage	a. Patching, equipment, and station cords shall be factory manufactured and shall be in compliance with Category 6 for channel performance. The use of field-manufactured cordage is not permitted. b. All cords shall be constructed of four twisted pair of 24 AWG stranded conductors terminated to industry standard 8P8C modular plug at both ends. c. Cordage shall be color-coded by service type (Voice, Data, Video, etc.). Colors shall be coordinated with and approved by EASA. d. Wiring schedule shall match that of patch panels and outlets. e. Cordage shall be of the same manufacturer as modular jacks, patch panels, and connecting/termination blocks. f. Wiring schedule shall match that of patch panels and outlets. g. Station cords shall be 5 m long. h. Equipment cords shall be 1-2 m long. i. Patch cords shall be available in varying lengths from 1 m to 5 m.
3.	Optical fibre	a. All optical fiber patch cords shall be 1.8 mm duplex (zip-cord), containing optical fiber strands equal to that specified for interior cabling, and shall match the type (graded-index or single-mode) connected to each cord. b. All cords shall be terminated to factory-polished duplex LC connectors and shall be fully in compliance with ANSI/TIA 568 C.3 standards for performance to 1000 Mb/s. c. The end-faces of all patch cords shall be of a Universal Positive Contact (UPC) configuration. d. Field-terminated cable assemblies are not permitted. e. Quantities and lengths of cords shall be coordinated with and approved by the Engineer. f. Cordage will be of the same manufacturer as that selected for the optical fiber and associated connectors.
All Requirements are Mandatory		

xx. Core Network Switch

The specifications of the core switch shall be as follows: -

Table 21 : Core Network Switch

Core network switch		
No.	Item	Specifications Required
1.	Quantity	One (1)
2.	C9500-48Y4C-E	Catalyst 9500 48-port x 1/10/25G + 4-port 40/100G, Essential
3.	CON-SSSNT-C95084EY	SOLN SUPP 8X5XNBD Catalyst 9500 48-port 25/100G only, Esse
4.	C9500-NW-E	C9500 Network Stack, Essentials
5.	C9500-SSD-NONE	No SSD Card Selected
6.	SC9500HUK9-173	Cisco Catalyst 9500H XE.17.3 UNIVERSAL
7.	C9K-PWR-650WAC-R	650W AC Config 4 Power Supply front to back cooling
8.	C9500-SPS-NONE	No Secondary Power Supply Selected
9.	CAB-C13-CBN	Cabinet Jumper Power Cord, 250 VAC 10A, C14-C13 Connectors
10.	C9K-F1-SSD-BLANK	Cisco pluggable SSD storage
11.	C9K-PWR-C5-BLANK	Catalyst 9500 power supply blank cover
12.	C9K-T1-FANTRAY	Catalyst 9500 Type 4 front to back cooling Fan
13.	C9500-DNA-48Y4C-E	C9500 DNA Essentials, Term License
14.	C9500-DNA-E-3Y	DNA Essential 3 Year License
15.	CON-SSTCM-C9524QE	SOLN SUPP SW SUBC9500 DNA Essentials
16.	NETWORK-PNP-LIC	Network Plug-n-Play Connect for zero-touch device deployment
17.	Professional Services	The bidder shall undertake the following professional services: - d. Configuration of the core switch e. Network segmentation f. Migration of the existing network settings to the new core switch
All Requirements are Mandatory		

xxi.Data center CCTV

The Data center will be monitored all the time by six (6) IP Cameras. The system will be independent of the building CCTV system. It should be supplied with an NVR and Storage for the footage. It shall have at least fifteen (15) users.

Table 22 : Data center CCTV

Datacenter CCTV		
No.	Item	Specifications Required
1.	Quantity	Six (6) IP CCTV Cameras.
2.	Make and Model	Datasheets to be provided.
3.	Camera Type	MUST be Digital IP, Dome Type. The camera must be accessible via an Ethernet port and use IP technology for access, management/configuration and data transfer.
4.	Camera Angle Adjustment	Pan: $\pm 177^\circ$ and Tilt: $\pm 69^\circ$
5.	Camera Resolution	The camera MUST have at least 4MP with high definition HD images and support the following resolutions 1080p (1920x1080), 720p (1280x720), D1 (720x480), CIF (352x240).
6.	Image Sensor	The camera shall incorporate 1/2 inch or higher CMOS sensor 1920(H) x1080V.
7.	Frame Rate	The camera should have a frame rate of H.264: up to 30 fps @1080p, MJPEG: up to 25 fps @ 720p.
8.	Power	4.9–5.1 VDC, max.2.4W; Power over Ethernet IEEE 802.3af/IEEE 802.3at Type 1 Class 1 (max.3.84W).
9.	Connectors/Networking	Male RJ45 10BASE-T/100BASE-TXPoE, HDMI (Micro). Video out compatible with DVI.
10.	PC and web browser support	OS: Windows 2000, Windows XP, Windows Vista, Windows 7/10, Windows Server 2012/2016 Browser: Windows Internet Explorer 7, 8, Mozilla Firefox, Opera and Google Chrome.
11.	Number of Channels	MUST have at least 10 Channels.
12.	Form Factor	MUST be rack mountable.
13.	Processor and Memory	<ul style="list-style-type: none"> ▪ Intel® i5 4570S, Quad Core, 2.90 GHz Turbo, 6MB. 8GB (2x4GB) 1600 MHz DDR3.
14.	Optical Disc Drive	OEM DVD RW.
15.	Storage	<ul style="list-style-type: none"> ▪ 12 TB (1x12TB) Enterprise Class HDD, 7200 rpm, SAS 6Gbps. To be configured in RAID 5.
16.	Other NVR Features	<ul style="list-style-type: none"> ▪ Graphic card: AMD Radeon R5 340X 2 GB 2 monitors supported. ▪ Operating system: Microsoft Windows 10 IoT Enterprise. ▪ Video streaming: Live view up to 25 camera split views or 1 x 4K camera view. ▪ Playback: 4 x 1080p camera split views or 1 x 4K camera view. ▪ Recording: Qualified for recording up to 32 video channels with a total recording rate up to 256 Mbit per second. ▪ Connectors: 6xUSB 2.0, 4xUSB 3.0, 1xDisplay Port, 1xDual link DVI-I Ethernet LAN 10/100/1000 Mbit, Line-in/out connectors, Computer mouse and keyboard connectors Form factor: 2U
17.	Warranty	Three (3) years.
18.	Video Management Software	<ul style="list-style-type: none"> ▪ Support video recording and playback. Time search, event search and date search. Multi-channel and remote channel playback (36 channels) and playback speeds of up to 32X.
19.	Access over Web	The entire CCTV should be accessible through a Browser within the WAN.
20.	Video Compression	H.264 (MPEG-4 Part 10/AVC) Baseline, Main and High Profiles Motion JPEG
21.	Diagrams	Detailed design drawings showing how the IP CCTV System will be implemented. The drawings should: - <ul style="list-style-type: none"> ▪ Be coloured. ▪ Have all dimensions to scale. ▪ Indicate the placement of all the cameras. ▪ All units should be in millimetres.
22.	Services and other accessories	<ul style="list-style-type: none"> ▪ Site survey is mandatory. ▪ Bidders should establish from the site survey how the cameras shall be installed. ▪ All the drilling necessary for placement of the external units should be factored in the cost.
All Requirements are Mandatory		

xxii. Access Control

Access control shall be managed by an IP based Access Control System using fingerprints, PINs and proximity cards. The main entry and exit doors will be provided with magnetic locks, and will operate on fail-safe principle through one common access control system. The two doors shall have biometric units both outside and inside. The system would be designed and implemented to provide following functionality: -

- i. Configurable system for user defined access.
- ii. Built-in Real Time Clock (RTC), calendar, complete relational database stored locally and shall be capable of operating offline on standalone mode.
- iii. Record, report and archive each and every activity (permission granted and / or rejected) with log formats.
- iv. Fail safe operation in case of no-power condition and abnormal condition such as fire, theft, intrusion, loss of access control etc.
- v. At the biometric reader, user presents the finger to the biometric reader which is unique to each employee. The pattern is read and compared with stored data to grant/deny access.
- vi. The biometric units should accommodate fingerprints, PINs and proximity cards.
- vii. EASA shall provide a Windows Server and SQL Server database to operationalize this system.

Table 23 : Access Control

Access control		
No.	Item	Specifications Required
1.	Technology	IP based Access Control System using facial, fingerprints, PINs and proximity cards.
2.	Make and Model	Coloured product datasheets to be attached.
3.	Biometric Devices	<ul style="list-style-type: none"> ▪ Four (4) devices to be supplied. ▪ All four (4) devices MUST have facial, fingerprints, PINs and proximity cards functionality ▪ MUST have fast and accurate fingerprint identification with at least 4MB Memory and a log capacity of at least 40,000 events. ▪ Should be capable of using RF Card, password and fingerprint and face recognition operation modes. ▪ Should use PoE.
4.	Door Controllers	<ul style="list-style-type: none"> ▪ Capable of handling 500,000 events buffering. ▪ Supports DHCP and Static IP. ▪ Four (State) alarm monitoring. ▪ 12V 7Ah batteries. ▪ Input: 220V AC, 50Hz (110V optional). ▪ Output: 12V DC, 3A. ▪ Communication: TCP/IP and RS-485.
5.	RFID Cards	<ul style="list-style-type: none"> ▪ 125 kHz Proximity Card. ▪ Read only. ▪ Printed and Not printed version. ▪ Thin cards. ▪ Fifteen (15) cards to be provided.
6.	Door Locks	<ul style="list-style-type: none"> ▪ Double Door Electro-Magnetic Lock (600KG). ▪ Single Door Electro-Magnetic Lock (300KG). ▪ System Override Key (In the event of the System Stalling). ▪ Emergency Break Glass. ▪ Power Supply Unit with a Backup Battery (20AH, 12v UPS/Battery), inclusive of approximately 30 metres power supply cable to two readers. ▪ Emergency Exit Doors. ▪ Wired Door Contact for Fire Exit Doors. ▪ Wired Internal Siren and Strobe for fire exit doors.
7.	Database and Servers	<ul style="list-style-type: none"> ▪ Should use SQL Server 2019 or above – KCAA to provide the database licenses. ▪ Should use Windows Server 2016 or above – KCAA to provide a VM with the OS installed.
8.	Management and Monitoring	All Ins/Outs should be presented to Authorized Users via a Web-Based Interface.

Access control		
No.	Item	Specifications Required
9.	Registration of Users	<ul style="list-style-type: none"> To be done easily with a Software Interface. Vendor to register all users (up to 10) and print all the cards.
10.	Events	All events to be directly recorded into the SQL Server database in real-time.
11.	Diagrams	Detailed design drawings showing how the access control will be implemented. The drawings should: - <ul style="list-style-type: none"> Be coloured. Have all dimensions to scale. Indicate the placement of the four (4) biometric devices, two (2) for each door, outside and inside. Indicate the placement of the central control panel. Indicate the placement of the door panels, each door should have its own panel. All units should be in millimetres.
12.	Services and other accessories	<ul style="list-style-type: none"> Site survey is mandatory. Bidders should establish from the site survey how all the controllers, panels and other units shall be installed. Installation, configuration and testing. Door magnetic contacts. Power cables and any other materials necessary to complete the works.
13.	Warranty and OEM Support	The system should be supported for at least three (3) years. This supported should be backed by OEM.
All Requirements are Mandatory		

xxiii. Monitoring and Management Systems

The infrastructure for the data center should be managed through a DCIM. The DCIM tool monitors the racks and devices in them as well as keeping track of available rack space.

Table 24 : Monitoring and Management Systems

Monitoring and management systems		
No.	Item	Specifications Required
Monitoring – Controlling unit		
1.	Dimensions	1U Rack
2.	Expansion Ports	<ul style="list-style-type: none"> 2x RJ-45 Expansion Ports. 115.2K BPS Data Transfer Rate. Simultaneous between Expansion Ports functionality & RS485 port threshold status.
3.	Mounting	<ul style="list-style-type: none"> Rack mount brackets to be included. Compatible with rack mount trays.
4.	Power Requirements	Voltage 7.0 – 9 VDC, 3Amp.
5.	Status Indication	<ul style="list-style-type: none"> LED indication for Power. LED for Network Connectivity. LED for sensor online and threshold status.
6.	Output	<ul style="list-style-type: none"> Ext. Speaker Out, 2.5" jack (Analog) Mic Out, 2.5" jack (Analog) (For modem application).
7.	Inputs	<ul style="list-style-type: none"> 8x RJ-45 Sensor Ports 2x RJ-45 Expansion Ports 1x USB 2.0 Modem Port 4x Video Ports Audio In (Analog) 2.5" jack RS485, 2 Pin Terminal box, (used for Modbus) x4 PTDC Ports.
8.	Operating Environment	<ul style="list-style-type: none"> Temp: Min. -35° C – Max. +55° C. Humidity: Min. 20% – Max. 80% (Non-Condensing).
9.	Components	<ul style="list-style-type: none"> 128 MB On-Board NAND Flash. Internal on-board 2 GB SD Memory Slot.
10.	Power Consumption	Typical 3.375 Watt, 0.45A.
11.	MTBF	400,000 Hours.
12.	Expansion Boards	<ul style="list-style-type: none"> 8 Port Intelligent Sensors Module 16 Port Dry Contacts Module (Maximum of 500 Sensors).

Monitoring and management systems		
No.	Item	Specifications Required
13.	Notification	<ul style="list-style-type: none"> ▪ SMS – Bidder to cover costs for the SLA period. ▪ Email. ▪ SNMP. ▪ TRAP. ▪ Telephone Calls. ▪ Picture Logs. ▪ Remote Server Shutdown.
14.	Warranty	At least one (1) year warranty.
Monitoring - Environmental		
Thermometer Specifications		
15.	Measurement range	-40°C to +75°C -67°F to +167°F.
16.	Measurement accuracy	±0.5°C accuracy from -10°C to +75°C ±0.9°F accuracy from +14°F to +167°F ±1°C accuracy from -10°C to +75°C ±1°F accuracy from +14°F to +167°F.
17.	Measurement resolution	0.5°C increments 0.9°F increments 1°C increments 1°F increments
18.	Power source	Powered by Monitoring base unit. No external power
19.	Communications cable	RJ45 jack with standard CAT5 UTP cable
20.	Power Requirements	7.0 – 9 V / >= 3 Amp
21.	Power Consumption	Typically 10.70mWatt at 2.14mA
22.	Sensor type	Semiconductor, microprocessor controlled
Humidity Specifications		
23.	Measurement range	0 to 100% Relative humidity
24.	Resolution	1%
25.	Accuracy at	25°C ±3%
26.	Communications cable	UTP Cat 5 cable
27.	Power source	Powered by the Controlling Unit. No additional power needed
28.	Power Consumption	Typical 7.25 mWatt, 1.45mA
29.	Sensor	Sensor element wettable without damage
Rope water sensor specifications		
30.	Measurement Range	Wet or Dry (-20 degrees C- +60 degrees C)
31.	Measurement Accuracy	Able to detect the presence or non-presence of water
32.	Sensor Type	Capacitance measurement technology
33.	Power Consumption	Typical 125 mWatt, 25 mA
34.	Power Source	Powered by the Controlling unit. No additional power needed. Both units AutoDetect the presence of the rope Water sensor
35.	Assembly	Comes fully assembled and includes the rope portion that is the water sensing cable, the non-sensing area cable (from the rope to the sensing module) and the main sensing module
Door security sensor specifications		
36.	Measurement Range	Alarm or Normal
37.	Communications Cable	RJ45 jack to sensor using UTP Cat 6 wire
38.	Sensor Type	Open/closed contact switch
39.	Power source	Powered by the Controlling Unit. No additional power needed
40.	Power Consumption	Typical 8.95 mWatt, 1.79Ma
41.	Measurement Rate	Multiple readings every second Maximum extension cable length 305m (1000 ft.) with approved low capacitance shielded cable or UTP Control Unit auto detects the presence of the security sensor
42.	Firmware features	<ul style="list-style-type: none"> ▪ Environmental monitoring – Logging and Graphing. ▪ Alarms with escalation, repeat and delay. ▪ Security enabled Web access. ▪ Email. ▪ SMS – Using SIM Cards and/or Email to SMS. ▪ At least four (4) programmed contacts for SMS/Email notifications.
43.	Integration	IP CCTV Cameras.
44.	Accessories and other works	All accessories, cabling, mounting and configurations required to make the solution operational.
45.	Warranty	At least one (1) year warranty
All Requirements are Mandatory		

SECTION 2: MANDATORY TECHNICAL REQUIREMENTS AND RESPONSIVENESS CHECKLIST FOR INSTALLATION OF CLEAN POWER FOR EASA ICT LABORATORY

EASA has established a modern ICT lab for students. There is need for clean power in the lab to serve the eighty (80) computers and related accessories in the lab. The clean power shall be from an APC UPS or equivalent. There is 3 phase power supply which is about 50 metres from the laboratory. It is recommended that a 3 phase UPS be installed as this provides more stability and prevent disruption in cases of mains phase failure.

The specifications of this clean power installation are detailed below. All Vendors MUST respond in writing against each technical requirement clearly showing technical compliance for each specification against their brochure with references. Marking compliant/non-compliant (√) or (X) will be considered INVALID and WILL NOT BE EVALUATED.

i. 20KVA UPS APC UPS – Quantity 1

Table 1 : 20KVA UPS APC UPS

No.	Items	Description
General		
1.	Make and Model	APC Smart-UPS 20KVA VT 400V With 4 Battery Modules
2.	SmartSlot Interface	1
3.	Communications	Serial via
4.	Emergency Power Off (EPO) Support	Yes
Power		
5.	Maximum Current	27 A
6.	Maximum Wattage	16,000 W
7.	Nominal Input Voltage	400 VAC 3PH
8.	Input Voltage Range	380 to 415 VAC
9.	Input Voltage Adjustable Range	304 to 477 VAC
10.	Input Frequency	50/60 Hz ± 10 Hz (Auto Sensing)
11.	Output Voltage Range	230 to 415 VAC
12.	Voltage Distortion	<5%
13.	Load Capacity	20,000 VA
14.	Circuit Breaker Rating	50 A
15.	Thermal Dissipation	3112 BTU/Hour
16.	Maximum Efficiency	95.3%
17.	Crest Factor	3:1
18.	Waveform	Sine Wave
Battery		
19.	Cells	4
20.	Recharge Time	5 Hours
21.	Replacement Battery	VRLA
Environment		
22.	Operating Temperature	32 to 104°F / 0 to 40°C
23.	Operating Humidity	0 to 95%
24.	Storage Temperature	-60 to 104°F / -50 to 40°C
25.	Storage Humidity	0 to 95%
26.	Operating Altitude	3333' / 1000 m
27.	Storage Altitude	50,000' / 15,000 m
28.	Noise Level	51 dBA
Physical		
29.	Dimensions (W x H x D)	59 x 22 x 32" / 149.9 x 55.9 x 81.3 cm
30.	Weight	1320.8 lb / 599.1 kg
31.	Package Weight	1415 lb
32.	Box Dimensions (LxWxH)	65 x 42 x 26"
All Requirements are Mandatory		

ii. Installation Requirements and Other Works

Table 2 : Installation Requirements and Other Works

Installation requirements and other works	
No.	Requirement Description
1.	Earthing and Lightning Protection Kit
2.	Main AC distribution board
3.	AC changeover 100A
4.	35mm armored cable 4 core
5.	10mm armored cable 4 core
6.	Cable lugs for 35mm
7.	Cable lugs for 10mm
8.	Complete MCCBs for the Raw power
9.	Complete MCCBs for the clean power
10.	Installation accessories
11.	Phase failure board LED lighting
12.	Required labour and installation costs
All Requirements are Mandatory	

SECTION 3: MANDATORY TECHNICAL REQUIREMENTS AND RESPONSIVENESS CHECKLIST FOR MIGRATION, MANAGEMENT OF LIVE SYSTEMS/SERVICES, PROJECT MANAGEMENT, KEYS MANAGEMENT, TRAINING, SLA SERVICES AND OTHER HARDWARE REQUIREMENTS

All Vendors MUST respond in writing against each technical requirement clearly showing technical compliance for each specification against their brochure with references. Marking compliant/non-compliant (√) or (X) will be considered INVALID and WILL NOT BE EVALUATED.

i. Decommissioning of the Old Data center and Migration to the New Data center

After remodeling the data center, EASA expects the bidders to carefully remove the existing obsolete ICT equipment in the decommissioned data center. These include, but not limited to server racks, monitors, UPSs, air conditioners, cables, trunkings and other accessories. Migrations and management of LIVE EASA systems are also parts of the requirements.

Migration of selected active devices and servers from the old to the new data center. Tests to be done to ensure connectivity. The devices to be migrated include: -

- i. Virtual environment base on VMware constituting of three (3) virtualized servers.
- ii. Internet and WAN links
- iii. Routers.
- iv. Fortinet firewall devices.
- v. Six (6) Cisco switches and CCTV switches
- vi. Two (2) WIFI controllers – Ruckus and Unifi/Ubiquiti
- vii. CCTV systems and NVR
- viii. Alcatel PABX and its entire network infrastructure.

Table 1 : Decommissioning of the old datacenter and migration to the new data center

Decommissioning of the old datacenter and migration to the new data center.		
No.	Item	Specifications Required
Removal of obsolete ICT equipment		
1.	Removal of Server Racks	Removal of all Server Racks currently in the Data center
2.	Removal of Monitors	Removal of Computer Monitors
3.	Removal of UPSs	Removal of UPSs
4.	Removal of Air Conditioners	Removal of Air Conditioners
5.	Removal of Trunkings and Cables	Removal of Trunkings and Cables
6.	Old Fire Suppression System	Removal of the obsolete fire detection and suppression cylinders and a fire alarm.
7.	Removal of the Ceiling	The ceiling within the data center should be removed and replaced with a modern ceiling.
8.	Transportation	Transportation of all removed equipment to KCAA Central Stores in Mlolongo approximately 15 KMs from EASA
9.	Disposal of Debris	Disposal of Debris
10.	Others	Removal of other items identified within the data center as unnecessary
11.	Migration of servers	Migrate and test for functionality of the following servers: - c. Two (2) IBM servers d. DELL server
12.	Migration of ISP routers	Migrate and test for functionality KENET ISP routers. Three ISP routers for KENET subcontracted companies – Liquid Telkom, FONE and GG Net should also be migrated.
13.	Migration of WAN router	Migrate and test for functionality Safaricom WAN router.
14.	Firewalls	Two (2) Fortinet firewall devices
15.	CISCO and CCTV switches	Six (6) CISCO switches and CCTV switches.
16.	WIFI controllers	Two (2) WIFI controllers
17.	CCTV System and NVR	Migrations of several CCTV Systems and NVRs
18.	Alcatel PABX	Migrate the PABX network cabinet. Migrate all the net work cabling associated with the PABX. Migrate all the telephone extensions to the new network and test for functionality.
19.	Other supporting services	Migration and testing of other assorted services
All Requirements are Mandatory		

ii. Management of LIVE EASA Systems and Services

Minimal interruptions are expected during the entire data center remodeling and modernization process. To ensure this, the bidder should: -

- a. Work on the equipment room first before migrating the existing equipment to the new data center.
- b. Cordon-off the existing data center and protect the equipment from dust and other elements during the remodeling of the equipment room.
- c. Moving LIVE equipment to the remodeled equipment room as the utility and control room are remodeled.
- d. Installation, powering and testing equipment in the equipment room.

Table 2 : Management of LIVE EASA Systems and Services

Management of LIVE EASA Systems and Services	
No.	Requirements
1.	Work on the equipment room first before migrating the existing equipment to the new data center.
2.	Cordon-off the existing data center and protect the equipment from dust and other elements during the remodeling of the equipment room.
3.	Cordon-off the section of the Finance Office that will be affected by the data center partitioning
4.	Moving LIVE equipment to the remodeled equipment room as the utility and control room are remodeled.
5.	Installation, powering and testing equipment in the equipment room.
6.	The bidder should provide a practical proposal of how they shall ensure that the operations offices surrounding the proposed data center remain operational and unencumbered during the data center remodeling project.
All Requirements are Mandatory	

iii. Project Management

Table 3 : Project Management

Project management	
No.	Requirements
11.	A detailed technical proposal entailing the following: - <ul style="list-style-type: none"> a. The bidder’s understanding of the EASA’s data center problem and a narrative of the solution. b. As per the information provided in the technical mandatory documentation, details of all the proposed staff to work on the solution.
12.	Mandatory letter to KCAA providing assurance that the project will be completed in six (6) months after contract activation. The actual implementation of the data center data after the equipment and devices have been delivered should last less than four (4) weeks.
13.	A Comprehensive Project Implementation Plan to be attached.
14.	Ten percent (10%) performance guarantee to be provided on after contract signing.
15.	Bidder to provide their methodology for quality assurance on the following aspects of the entire project: - <ul style="list-style-type: none"> a. Remodeling and modernization of Data center b. Installation of clean power for EASA ICT laboratory c. Disposal of obsolete items, migration of equipment and data, technical training, and knowledge transfer d. Migration of existing equipment
All Requirements are Mandatory	

iv. Physical Intelligent Key Management Devices/Cabinets

Table 4 : Physical Intelligent Key Management Devices/Cabinets

Physical Intelligent Key Management Device/Cabinet		
No.	Specifications Required	
1.	Number of devices – Two (2)	<ul style="list-style-type: none"> a. One device for KCAA HQ to be mounted at ICT offices. b. The second device for EASA shall be mounted at the monitoring room for the data center.
2.	User management	<ul style="list-style-type: none"> f. Selected or random PIN code. Option to change code at cabinet(s). g. Biometrics option (fingerprints and face) for access to the key management device. h. Inactivation of users. i. Validity period for users. j. Unlimited number of users.
3.	Capacity	Should be able to manage at least 60 keys
4.	Communication	Ethernet using an IP address
5.	Keys management	<ul style="list-style-type: none"> a. Time restriction. b. Searchable hidden key ID. c. Graphical key overview. d. One key in one or more cabinets. e. Free or fixed key position.
6.	Event Log	<ul style="list-style-type: none"> a. Log from PC and cabinet(s). b. Selection of what will be shown in log. c. Intelligent search function. d. Sort by date or events. e. Clear alarm indications. f. Reports via CSV file and PDF.
7.	Administrators	<ul style="list-style-type: none"> a. Unlimited number of administrators. b. Adjust administrator rights. c. Selection of cabinet(s) for administration. d. Only information about own cabinet(s). e. Activities registered in log.
8.	Groups	<ul style="list-style-type: none"> a. Groups for users and keys. b. Time channels. c. Simple administration via groups.
9.	Key Cabinet	<ul style="list-style-type: none"> a. Search function in display. b. Information about who has key. c. Service menu for configuration. d. Administration code with full authorization. e. Stand-alone or network. f. Automatic or fixed IP address. g. Door alarm and Key Alarm.
10.	Specifications	<ul style="list-style-type: none"> a. Cabinet Dimensions: 746 x 730 x 140 mm b. Weight: 30 kg c. Power Supply: Input: AC120-240V d. Output: VDC e. Battery Backup: DC12V 3.2Ah (24hours) f. Power Consumption: 65W max/0.3A g. Cabinet Material: Steel h. Color Options: Light Grey Powder Coated i. Door Material: Standard Clear Polycarbonate or j. Optional Solid Metal Door k. Operating Temp: Ambient for Indoor Use Only l. Mounting: Wall or Cabinet stand mounted m. Key Positions: 14-98 n. Receptor Strip Support: Locking, Non Locking, o. Users per systems: 10,000 plus p. Communications: Ethernet, GPRS, RS485, RS232, Modem q. Reader Interface: Wiegand
11.	Reporting	<ul style="list-style-type: none"> c. Web interface for access to reports d. Notifications – SMS and email
12.	Key Fobs	<ul style="list-style-type: none"> a. Key rings will be attached to a tracking fob. b. Sensors in the cabinet will scan the fob when keys are signed out and returned to verify that the correct keys are present. c. RFID is a short-range wireless communications standard most often used for machine-to-machine communication. d. 50 key fobs to be availed for each device.
All Requirements are Mandatory		

v. Training and Knowledge Transfer

Table 5 : Training and Knowledge Transfer

Training and Knowledge Transfer	
No.	Specifications Required
4.	<p>Certified Data Center Design Professional (CDCP) and Certified Data Center Management Professional (CDCMP) for three (3) ICT staff. The training should entail: -</p> <p>f. The expected delivery Method is In-person/Instructor-LED (Classroom program).</p> <p>g. Training Duration: 80 Hours.</p> <p>h. The training MUST be done at a CNET Internationally recognized/accredited facility with instructors, and on-site labs and data centers for both hardware and software.</p> <p>i. Bidder MUST include all costs for the training and DSA based on purchaser’s standard rate. These costs include but not limited to Airfare and Terminal transport.</p> <p>j. All training materials, exam revision kits, Certification and exam costs should be included.</p>
5.	<p>Project Monitoring and Evaluation for three (3) KCAA staff. The training should entail: -</p> <p>f. The expected delivery Method is In-person/Instructor-LED.</p> <p>g. Training Duration: 80 Hours.</p> <p>h. The training MUST be done at the Internationally Law Institute recognized/accredited facility with instructors.</p> <p>i. Bidder MUST include all costs for the training and DSA based on purchaser’s standard rate. These costs include but not limited to Airfare and Terminal transport.</p> <p>j. All training materials, exam revision kits, Certification and exam costs should be included.</p>
6.	<p>On site knowledge and skills transfer for the following;-</p> <ol style="list-style-type: none"> 1. Data center and networks. 2. Server racks 3. UPSs 4. Air conditioners 5. Switches 6. Access control system 7. Fire detection and suppression system 8. Structured cabling components. 9. Clean power solution components. 10. Raised floor 11. Data center monitoring and management system.
All Requirements are Mandatory	

vi. Service Level Agreement – Data center and Clean power for the ICT lab

Table 6 : Service Level Agreement – Data center and Clean power for the ICT lab

Service Level Agreement - Data center		
No.	Item	Specifications Required
1.	Maintenance and Support Term	The maintenance and support period is three (3) years.
2.	Passive Devices/Equipment to be maintained and supported in the datacenter.	<ul style="list-style-type: none"> a. Server racks b. Lighting System with motion sensor switching system c. Precision Air Conditioning System – STULZ in-row air conditioners d. Structured cabling (Ethernet) e. Cable management f. Dual power connections for all supported equipment g. Raw power system h. TRIPPLITE UPS and UPS power system i. UPS battery banks j. TM3 – Datacenter environmental monitoring system k. PDU system l. Raised floor m. DCIM system n. Automatic Voltage Regulator (AVR) o. Fire detection and suppression p. Any other data center equipment
3.	Preventive Maintenance for EASA data center	<ul style="list-style-type: none"> a. Health checks for all passive devices/equipment b. Firmware and software upgrades as applicable c. Equipment/devices cleaning to remove dust and residue accumulation d. Change of filters and refrigerants for air conditioners e. Testing of equipment and devices f. Review of logs and alerts for equipment where applicable g. Check for any safety hazards h. Inspection of equipment and removal of zombie devices and loose cabling i. Check any presence of corrosion, dust/residue accumulations, dripping water, unusual equipment noises etc j. Inspect overall cleanliness, temperature levels, ventilation obstructions and access hindrances k. Sign checklists for each device/item l. Failover and failbacks of servers based on a risk-based approach. <p>The required preventive maintenance duration is four working days</p>
4.	Corrective Maintenance	To be undertaken immediately a maintenance component fails. OEM to provide replacement parts. Where downtime is required, this shall be arranged with the KCAA systems administration team for approval prior to the required downtime.
5.	Outage Severity Levels and Required Response Times	<ul style="list-style-type: none"> a. Severity One/Red: KCAA is unable to do their business as a result of complete or partial system failure. This has a major impact on the EASA’s business operations. <u>Response:</u> The vendor should respond within one (1) hour. A resolution or a workaround should be provided within two (2) hours. b. Severity Two/Orange: The problem has high visibility and impacts on the way KCAA does business. The service is disrupted but not halted. The system performance may be degraded, or functions limited. <u>Response:</u> The vendor should respond within three (3) hours. A resolution or a workaround should be provided within twelve (12) hours. c. Severity Three/Green: A single component or several components are affected with or without a work around. The problem may affect EASA’s efficiency but is limited in visibility and does not prevent work from being completed. <u>Response:</u> The vendor should respond within twelve (12) hours. A resolution or a workaround should be provided within seventy-two (72) hours.

Service Level Agreement - Data center		
No.	Item	Specifications Required
6.	Fault Logging Procedure and Reporting	<ul style="list-style-type: none"> d. The vendor to provide a support service desk email and a telephone number manned 24/7 for logging faults and a fault should be allocated a reference number for ease of tracking. e. Response to faults logs shall be undertaken as per the response times based on severity levels. f. Once a red or orange level fault is resolved, a report should be provided entailing the following: - <ul style="list-style-type: none"> vii. The root cause analysis viii. The measures taken to resolve it ix. The measures taken to ensure it does not recur
7.	Escalations	<p>The vendor shall provide two escalation levels after a fault is reported and left unattended. Phone numbers and email addresses of the escalation levels shall be required. The levels are as follows: -</p> <ul style="list-style-type: none"> a. Level 0 – Normal helpdesk reporting after a fault. b. Level 1 – Technical manager or service provision manager after the response times for resolution are not met. c. Level 2 – The CEO after the required response times are not met after escalating to level 2.
8.	Maintenance and Support Services	<ul style="list-style-type: none"> a. Consultation for guidance on complex procedures and processes in configuration and integration of the Solution. b. Assistance in configuration of the Solution in case of failure of any part of the System. c. Configuration of the Solution to optimize performance. d. Bugs and Errors resolution as far as the VMWare software is concerned. e. Receive, classify, log and track all reported issues and provide case updates until the issues is conclusively resolved. f. Provide urgent security alerts on the version deployed by the client. g. Troubleshooting and provide workarounds assistance where existing system cannot perform some of the tasks. h. Installation and configuration advice to KCAA ICT technical staff. i. Answering questions and providing a reasonable level of guidance to KCAA about the Virtualization and SAN Solution. j. Provide trained Technical Support personnel to handle inquiries and problems. k. Provide documentation updates and major system releases information. l. Provide pro-active maintenance release announcements sent to customer directly.
9.	Infrastructure Upgrades	<p>Occasionally the Authority will make plans for replacement of the infrastructure. The vendor will be required to: -</p> <ul style="list-style-type: none"> a. Make recommendations for infrastructure (servers, switches, hypervisors, backup solutions and storage) upgrades to EASA. b. Undertaking infrastructure upgrades as requested by EASA.
10.	SLA Costs	<p>All costs pertaining to the preventive maintenance shall be borne by the vendor. These include: -</p> <ul style="list-style-type: none"> a. Materials required for the preventive maintenance e.g., refrigerant, filters, cleaning agents, paint etc. b. All equipment required for the SLA like blowers, drills, brushes et al. c. Costs of facilitation and transportation of vendor’s staff and equipment to the site.
11.	SLA Payments	<p>Payments pertaining the one-year SLA shall be paid semi-annually in arrears, invoicing and provision of SLA (maintenance and support) reports applicable for the payment period.</p>
12.	Sample SLA	<p>The vendor shall provide a sample SLA that meets all the above provisions for adoption in the contract.</p>
All Requirements are Mandatory		

PART 2: LOT 2 - OVERHAUL OF THE NETWORK INFRASTRUCTURE (LAN), EXTENSION OF WLAN (WIFI) COVERAGE AND EXTENSION OF CCTV COVERAGE

THE FOLLOWING CRITERIA WILL BE USED TO DETERMINE MANDATORY TECHNICAL DOCUMENTATION RESPONSIVENESS OF THE BIDDERS FOR LOT 2.

All bidders must provide the following mandatory technical documentation for LOT 2 to be considered as responsive in order to proceed to the next stage of evaluation. The bidder **MUST** provide detailed explanations of how they shall fully meet the required technical documentation. Bidders should **NOT** write complied or just tick (√) against a requirement, a full detailed explanation is required. **ALL THE REQUIREMENTS ARE MANDATORY.**

Table 1 : Mandatory Technical Documentation Requirements

Mandatory Technical Documentation Requirements		
No.	Item/Specification	Requirement
1.	Vendor's experience in network design and implementation	The bidder MUST have successfully designed, implemented, supported and maintained at least three (3) network projects EACH with a value of at least KES 20 (Twenty) million within the last six (6) years. For each of the three (3) sites, attach the following: - i. Name of site and client ii. Valid copies of LSO or contracts iii. Respective completion certificates and/or respective recommendation letters iv. Contact person's name and email address
2.	Staff competence in structured cabling and networking	The bidder MUST have at least five (5) engineers trained and experienced in structured cabling and networking. For each of the engineers, attach the following: - i. Attach CVs ii. Attach copies of certificates showing training in networking iii. Attach documentation for the sites implemented by the respective engineers. <i>The engineers proposed here MUST be involved in the implementation of the project if awarded.</i>
3.	Staff competence in PABX, CCTV and WLAN	The bidder MUST have at an engineer trained and experienced in each of the following: PABX, CCTV and WLAN. For each of the engineers, attach the following: - i. Attach CVs ii. Attach copies of certificates showing training in PABX, CCTV and WLAN iii. Attach documentation for the sites implemented by the respective engineers. <i>The engineers proposed here MUST be involved in the implementation of the project if awarded.</i>
4.	Staff competence in project management.	The bidder MUST have at an engineer trained and experienced in project management. Attach the following: - i. Attach CVs ii. Attach copies of certificates showing training in project management. iii. Attach documentation for the sites implemented by the respective engineers. <i>The engineers proposed here MUST be involved in the implementation of the project if awarded</i>
5.	Electrical/mechanical construction competence	The bidder should have at least National Construction Authority (NCA) 2 (Two) category under Electrical/Mechanical. Documentation to be attached.
6.	Builder's works competence	The bidder should have at least National Construction Authority (NCA) 4 category under Builders Works/Contractors. Documentation to be attached.
7.	EPRA licensing for the bidder	The bidder must be an Electrical Contractor licensed by the EPRA, at least class B. Documentation to be attached.

Mandatory Technical Documentation Requirements		
No.	Item/Specification	Requirement
8.	EPRA licensing for bidder's technicians	The bidder must have at least two (2) electrical technicians licensed by the EPRA. Documentation to be attached.
9.	Competence and certification for Occupational Safety and Health	The bidder MUST have certification for Occupational Safety and Health. Documentation to be attached.
10.	Site Survey	The bidder MUST attend a Prebid meeting and carry out a survey for the proposed network infrastructure sites. The Prebid and site survey form MUST be duly signed and stamped by a KCAA staff.
11.	High Level Technical design diagrams for the proposed EASA LAN overhaul	The bidder shall provide high level technical design diagrams for the proposed LAN overhaul in the entire compound. The diagram should depict the bidder's understanding of the overhaul requirements. The diagrams MUST have the following attributes: - i. Indicate the overall topology design of the network indicating the various offices, network cabinets and trunking ii. Use different colour codes to depict fibre, ethernet and power cabling iii. All units should be in millimetres and clearly labelled iv. The diagram should be in full colour v. All items in the diagram should be to scale
12.	Low Level Technical design diagrams for the proposed EASA LAN overhaul	The bidder shall provide low level technical design diagrams for the proposed LAN overhaul in the entire compound. The diagram should depict the bidder's understanding of the overhaul requirements. The diagrams MUST have the following attributes: - i. All data and power points ii. Diagrams for each room/area where the network shall be deployed iii. Use different colour codes to depict fibre, ethernet and power cabling iv. All units should be in millimetres and clearly labelled v. The diagram should be in full colour vi. All items in the diagram should be to scale

LOT 2 WILL FURTHER CONSIST OF THE FOLLOWING SECTIONS:-

- 1. Section 1 – Overhaul of Network Infrastructure (LAN).**
- 2. Section 2 – Extension of WLAN (WIFI) Coverage**
- 3. Section 3 – Extension of CCTV Coverage**
- 4. Section 4 - Migration, Management of Live Systems/Services, Project Management, Training, SLA Services and other Hardware Requirements**

SECTION 1: MANDATORY TECHNICAL REQUIREMENTS AND RESPONSIVENESS CHECKLIST FOR OVERHAUL OF NETWORK INFRASTRUCTURE (LAN)

Instructions to bidders.

- a. This part provides adequate details and criteria for the design of this technology network system with the aim of providing EASA offices with complete integrated network infrastructure. The purpose of this infrastructure is to provide a functional solution for a comprehensive technology network system including required network cabling, components and devices.
- b. The cabling infrastructure will provide facilities for connecting to a wide range of heterogeneous devices, which may include but not limited to computers, network management devices, audio/video communication devices, security and access control systems, wireless access points.
- c. The cabling system should be based on an open architecture that will provide multiple compatibility, interoperability, scalability and efficient adaptability to changes in physical layouts and relocations where a number of data points are anticipated.
- d. The proposed location for the network cabinets, data points and wireless access point in the EASA facilities will be provided.
- e. Bidders shall be expected to provide network designs as part of tender response and the final design shall be approved during the implementation of the project.
- f. The bidder shall supply all components necessary to complete the installation, configuration, testing and commissioning of the integrated Local Area Network (LAN).
- g. The bidder shall be responsible for the installation of the technology network system as required in the Tender Document
- h. Bidders should pay particular attention to this document, which specifies the desired scope and installation practice that requires strict adherence.
- i. The solution is required to support secure communication, scalability, reliability and simple network management. The entire network shall have a consistent architecture to reduce the total cost of network ownership for on-going support and maintenance, component and interface management, scalability, relocations, security, redundancy and training.
- j. The Local Area Network shall link EASA to KCAA HQs and subsequently link to other KCAA stations across the country. Static and/or dynamic IP addressing and sub netting shall be used to realize Virtual Local Area Network (VLAN) within the LANs and use of Layer 3 (routing). All active components used in the network must be able to facilitate management of the network from a central point and from remote locations.
- k. Fiber shall be used for the LAN Backbone (LAN) and for interconnecting all network Cabinets.
- l. The Bidder must provide lightening surge protectors and grounding of the active equipment.

Local Area Network.

The scope of the project shall include supply, installation, configuration, testing and commissioning of the following components:-

1. Active Equipment: Aggregation Switch, Access Switches, and Passive Equipment: Horizontal Cabling Subsystem, Fiber Backbone Cabling Systems.
2. Installation of network cabinets, Uninterruptable power supply (UPS) and powering the cabinets.
3. Connect and integrate the existing LAN to the new installed network and ensure the entire network have the same VLAN setup.
4. Currently EASA is running the Alcatel Telephony System that requires migration to the new LAN system. Special attention should be paid to the PABX cabling with an aim of maintaining the old telephony network. This will ensure uninterrupted telephony services.

TECHNICAL SPECIFICATIONS.

All Vendors MUST respond in writing against each technical requirement clearly showing technical compliance for each specification against their brochure with references. Marking compliant/non-compliant (√) or (X) will be considered INVALID and WILL NOT BE EVALUATED. **ALL THE REQUIREMENTS ARE MANDATORY.**

i. General LAN Requirements

Table 2 : General LAN Requirements

General LAN requirements	
No.	Description
	General installation practice
1.	The Bidder shall be required to install cabling in accordance with International Structured Cabling System and designs. Each subsystem will be implemented using F/UTP Category 6A cabling compliant with components to be deployed in accordance with ANSI/TIA/EIA-568-C2 and ISO/IEC 11801 CLASSE A standards requirements.
2.	The new LAN cabling will generally run along the old trunking except under special circumstances to be approved by EASA. Care should be taken to ensure that the cabling in the old trunking is not interfered with during the project implementation period until the new LAN is commissioned. This will ensure continuity of network services.
3.	All network components must be Earthed as indicated in the general specifications of this document, the local regulations in force and the manufacturer’s recommendations.
4.	All routing layout for cable paths must consider fiber optic cable with minimum radius of curvature to be supported by the existing facilities in order not to interfere with access to maintenance activities.
5.	All cabling infrastructure should make provisions aspects for possible future extensions.
6.	All adapters must be compatible with the transmission capacities of the equipment to which they connect.
7.	All cables and connectors must be labelled with permanent indelible ink mark labels at destination of each and every termination point.
8.	Horizontal and backbone cables shall be labelled at each end. The cable or its label shall be marked with its identifier.
9.	A unique identifier shall be marked on each faceplate to identify it as connecting hardware.
10.	The bidder shall be required to comply with the manufacturer’s recommended installation practices.
11.	The network should be capable of carrying data, voice and video. QOS should be considered as part of installation and configuration of the network.
12.	The LAN installation shall consist of a star topology with horizontal F/UTP subsystem originating from switches and terminating with RJ45 sockets. For each data point, a patch cord of appropriate length with RJ45 connectors at both ends will be required to connect the information point to the network interface adapter.
13.	Good cable management practice must be adhered to and proper color-coding used for easy identification.
14.	The Main Distribution Facility (MDF) shall be located on an already identified room by the client.
15.	The location for HDFs (Horizontal Distribution Facility) on each building floor will be located on an already identified rooms by the client.
16.	High-speed Fiber Optic Uplink Backbone cable will be used to link building blocks and floors to the main distribution facility location.
17.	Cables traversing between building blocks shall be through the trench that shall be 1.5meters deep and must be installed in ducts that complies with or is part of approved infrastructure plan.
18.	Cables must be run in the trunking (s) within building wall and surface pathways. This must be galvanised metal trunking installations.
19.	A Galvanised Metal trunking of 150mm by 50mm dimensions with two compartments must be installed. One will be used for data cables and the other for any other utility service(power)
20.	The LAN installation shall consist of a star topology with horizontal F/UTP subsystem originating from switches and terminating with RJ45 sockets. For each data point, a patch cord of appropriate length with RJ45 connectors at both ends will be required to connect the information point to the network interface adapter.
21.	Good cable management practice must be adhered to and proper color-coding used for easy identification.
	Horizontal cabling
22.	The primary media for horizontal cabling will be 4-pair Foiled Unshielded Twisted Pair (F/UTP) that must meet or exceed ANSI/TIA/EIA-568-C2 and ISO/IEC 11801 CLASS EA standards requirements.

General LAN requirements	
No.	Description
	General installation practice
23.	CAT 6A Ethernet Patch cords (Panduit CAT 6A or equivalent)
24.	Each room to be networked shall have wall plates installed and each outlet terminated with 8-pin modular jacks (RJ-45) and shall be flash with trunking.
25.	Each designated network interface/ port will have capacity to support at least 1GEthernet.
26.	Cables shall be required to move through metal trunking firmly when pulled.
27.	Cables installed between faceplates and patch panel shall not exceed recommended distance of 90meters.
28.	Cables shall not be crushed using cable ties.
29.	Cable conduits must not be overfilled or strained.
30.	No distortion due to kinks, sharp bends or excessive hauling tension shall be allowed.
31.	Cables shall be run in a manner eliminating any possibility of strain on the cable itself or on the terminations
32.	Bending radii shall not be less than eight times the overall cable diameter.
33.	The manufacturers hauling tension shall not be exceeded.
34.	All cable ties and fixings shall be tightened to support the cable loom without distortion of the cable sheath.
35.	All cables must pass through trunking and should not be seen from outside
36.	There shall be no splicing of installed cables. Intermediate cross-connects and transition points are not allowed.
37.	All user-area patch cords shall be at least 3-metre in length. All patch cords must be shielded F/UTP
38.	Cabinet Patch cords being used to connect patch panel and the access switch shall be 1meter shielded F/UTP
39.	Data and power outlets shall be flash mounted on the metal Trunking.
40.	All user-area patch cords and cabinet patch cords will be supplied to match the total number of data outlets.
41.	The contractor shall pull two cables for each faceplate and terminate both cables.
42.	All power socket shall be mounted on the metal trunking.
43.	The Contractor may combine two or more blocks to form one LAN segment to leverage on the active devices. This should be shown clearly in the proposed bidder's design.
44.	The combined blocks LAN segment F/UTP cables shall not be more than 90M from the active equipment to the data point.
45.	Where there is a combined blocks LAN segment, 110mm HDPE ducts shall be used to interconnects the blocks and outdoor F/UTP cables shall be used. The HDPE shall pass through a trench that is 1.5meters deep.
46.	Cables entry between the blocks shall be not more than 0.5M from the ground and the outer cover shall be galvanized metallic trunk.
47.	Except for the patch cords used to connect NICs to the RJ45 sockets, all patch cords must be labelled at each extremity with soft PVC indelible marking. For all other components, the label type should be of stiff plastic PVC.
	Backbone cabling
48.	The primary media for backbone cabling shall be fiber optic.
49.	For Backbone cables interconnecting between buildings, telecommunication rooms, equipment rooms and entrance facilities shall be installed in star topology
50.	Multimode fiber optic cable (62.5/125 micron) will be used.
51.	Fibre optic cable shall have a core/cladding diameter on nominal 850nm and 1300nm optical wavelength.
52.	The fiber optic cable shall have a minimum of eight (8) strands.
53.	All strands must be terminated at each end of the fiber cable whether used or not.
54.	All optical fiber components and installation practices shall meet applicable building and safety codes requirements and shall provide well organized cable installation management in accordance with the manufacturer's guidelines
55.	Fiber optic cables running through risers must be protected by PVC conduits to protect them from interferences from other service providers.

General LAN requirements		
No.	Description	
	General installation practice	
56.	All fiber optic backbone links will be terminated at the identified MDF room as per the physical topology design.	
57.	All fiber interfaces for uplink must use relevant transceivers.	
	Patch panel requirement	
58.	All patch panels must conform to ANSI/TIA/EIA568 B.	
59.	All Patch Panels must be shielded	
60.	Patch panels must be equipped with shielded RJ45 Category 6A sockets contacts with capacity of 24 ports as needed.	
61.	Each Data Patch Panel shall be identified alphabetically from the top of the cabinet. The number of the cabinet should be used for identification on a1 to 24-way panel. e.g., A-a-01 means Block A patch panel a point no 1.	
62.	Fiber Optic patching shall be done from the floor cabinets or cabinet housing optic boxes/ panels as well as the optic electronic equipment.	
63.	Fiber Optic patch panel (ODF) shall have a sliding tray	
64.	All patch panels, including fiber optic patch panels must be rack mounted.	
65.	All patch panels must be earthed to provide electrical safety to users in future and screening to prevent electromagnetic radiations.	
66.	Fiber optic patch panels shall be used for distribution and management of fiber optic cable, Provision of fiber splicing, termination, management and storage in one unit.	
67.	Fiber optic patch panels will be connected as per the number of strands terminated at each location.	
68.	Power Ordinary Dual Points	British standard socket outlet Belanko S - 13A 250V~ 2 gang single pole switched - white
69.	Power USB Dual Points	British Standard socket outlets - 13 A- 250 V~ with USB charger Conform to BS 1363-2:2016 Conform to IEC 60950-1 2 gang 2 gang single pole switched USB Type-A + Type-C™ 3 A - 5 VDC - 15 W Consumption in passive mode less than 0.08 W
70.	Face plates	86mm x 86mm shuttered faceplates shall be available in 2 port configurations with and spring shuttered doors that protect connectors from dust and debris when not in use. Faceplates shall have a sloped orientation and include label pockets that enable proper port identification. All faceplates shall accept Mini-Com® Modules for copper installations
71.	UTP RJ45 Cat 6A TG Jack Module	The Mini-Com® Cat 6A UTP RJ45 TG Jack Module is designed to terminate 4-pair, 22-26 AWG twisted pair cable. Each module is 100% factory tested to exceed industry standard performance requirements. TG style termination eliminates the need for a termination tool. Each jack is individually serialized for traceability and is compatible with Mini-Com Modular Patch Panels and Faceplates.
72.	Fibre	Multimode duplex jumpers OM3 LC-LC 3m
73.	PABX Cabling	The existing Alcatel PABX network cabling should be maintained and integrated into the new network cabinets to ensure uninterrupted telephony services. Connectivity tests should be carried out to ensure functionality of the PABX system and all telephone extensions within the school.
74.	Disposal	3. Disposal of obsolete cables, UPSs, network cabinets, metal trunkings and debris. 4. Transportation of all removed equipment to KCAA Central Stores in Mlolongo approximately 15 KMs from EASA
All Requirements are Mandatory		

ii. Requirements for Network Switches

Table 3 : Requirements for Network Switches

Requirements for network switches.		
No.	Part Number	Description
Transceivers – Quantity 54		
1.	SFP-10G-SR-S=	10GBASE-SR SFP Module, Enterprise-Class
24 – Port access switch – Quantity 3		
2.	C9300L-24P-4X-E	Catalyst 9300L 24p PoE, Network Essentials ,4x10G Uplink
3.	CON-SSSNT-C9300L2X	SOLN SUPP 8X5XNBD Catalyst 9300L 24p PoE, Network Essentia
4.	C9300L-NW-E-24	C9300L Network Essentials, 24-port license
5.	PWR-C1-BLANK	Config 1 Power Supply Blank
6.	C9300L-STACK-BLANK	Catalyst 9300L Blank Stack Module
7.	FAN-T2	Cisco Type 2 Fan Module
8.	S9300LUK9-173	Cisco Catalyst 9300L XE 17.3 UNIVERSAL
9.	PWR-C1-715WAC-P	715W AC 80+ platinum Config 1 Power Supply
10.	C9300L-SPS-NONE	No Secondary Power Supply Selected
11.	CAB-C15-CBN	Cabinet Jumper Power Cord, 250 VAC 13A, C14-C15 Connectors
12.	C9300L-SSD-NONE	No SSD Card Selected
13.	C9300L-DNA-E-24	C9300L Cisco DNA Essentials, 24-port license
14.	C9300L-DNA-E-24-3Y	C9300L Cisco DNA Essentials, 24-port, 3 Year Term license
15.	CON-SSTCM-C93LE24	SOLN SUPP SW SUBC9300L Cisco DNA Ess
16.	NETWORK-PNP-LIC	Network Plug-n-Play Connect for zero-touch device deployment
48 – Port access switch – Quantity 20		
17.	C9300L-48P-4X-E	Catalyst 9300L 48p PoE, Network Essentials ,4x10G Uplink
16.	CON-SSSNT-C93004X4	SOLN SUPP 8X5XNBD Catalyst 9300L 48p P
17.	C9300L-NW-E-48	C9300L Network Essentials, 48-port license
18.	PWR-C1-BLANK	Config 1 Power Supply Blank
19.	C9300L-STACK-BLANK	Catalyst 9300L Blank Stack Module
20.	FAN-T2	Cisco Type 2 Fan Module
21.	S9300LUK9-173	Cisco Catalyst 9300L XE 17.3 UNIVERSAL
22.	PWR-C1-715WAC-P	715W AC 80+ platinum Config 1 Power Supply
23.	C9300L-SPS-NONE	No Secondary Power Supply Selected
24.	CAB-C15-CBN	Cabinet Jumper Power Cord, 250 VAC 13A, C14-C15 Connectors
25.	C9300L-SSD-NONE	No SSD Card Selected
26.	C9300L-DNA-E-48	C9300L Cisco DNA Essentials, 48-port license
27.	C9300L-DNA-E-48-3Y	C9300L Cisco DNA Essentials, 48-port, 3 Year Term license
28.	CON-SSTCM-C93LE48	SOLN SUPP SW SUBC9300L Cisco DNA Ess
29.	NETWORK-PNP-LIC	Network Plug-n-Play Connect for zero-touch device deployment
All Requirements are Mandatory		

iii. Assorted Bill of Quantities for Structured Cabling

Table 4 : Requirements for Network Switches

Assorted bill of quantities for structured cabling			
No.	Item	Description	Qty
Fiber network			
1.	8 Core Armored MM Fiber Cable /Metres	a. DC→Hostel b. DC→Engineering Block c. DC→New ICT Lab d. DC→Maintenance Block e. Hostel→Catering→Dispensary→Swimming pool f. Note: All other cabinets should be interconnected using fibre (No UTP)	1600 Metres
2.	48-Port Complete Fiber patch panel		20
3.	24-Port Complete Fiber patch panel		6
4.	Fiber Pigtaills		98
5.	1 Metre Fiber Patch Cord/MM		56
6.	Cat 6A UTP Cable/Boxes		108
7.	Dual Data Points		323
8.	Power Ordinary Dual Points		336
9.	Power USB Dual Points		76
10.	1 Metre Patch Cords		1108
11.	3 Metre Patch Cords		469
12.	48 Port UTP Patch Panel		46
13.	24 Port UTP Patch Panel		8
14.	1U Cable Manager		52
15.	42U Cabinet		5
16.	22U Cabinet		8
17.	12U Cabinet		3
18.	1.5 rack mount UPS		12
19.	50 x 50 Compartment Powder Coated Metal trunking/lengths		4
20.	100 x 50 x 2 Compartment Powder Coated Metal trunking/lengths		36
21.	300 x 50 x 2 Compartment Powder Coated Metal trunking/lengths		626
All Requirements are Mandatory			

iv. Civil Works for Fibre Cables

Table 5 : Civil Works for Fibre Cables

Civil works for fibre cables	
No.	Requirement
4.	Trenching from catering to dispensary to swimming pool
5.	Installation of 900x900 manholes at catering to dispensary to swimming pool
6.	Conduiting all the trenches at catering to dispensary to swimming pool
All Requirements are Mandatory	

v. 1.5 KVA APC UPS – Quantity 12

Table 6 : 1.5 KVA APC UPS

1.5 KVA APC UPS – Quantity 12		
No.	Part Number	Description
1.	Quantity Required	Twelve (12)
2.	Make and Model	APC or equivalent
Output		
3.	Output power capacity	900 Watts / 1.5kVA
4.	Max Configurable Power (Watts)	900 Watts / 1.5kVA
5.	Nominal Output Voltage	230V
6.	Output Voltage Distortion	Less than 5 %
7.	Output Frequency (sync to mains)	50/60 Hz +/- 3 Hz Sync to mains
8.	Other Output Voltages	220, 240
9.	Topology	Line interactive
10.	Waveform type	Sine wave
11.	Output Connections	(4) IEC 320 C13 (2) IEC Jumpers
12.	Transfer Time	6 ms typical : 10 ms maximum
Input		
13.	Nominal Input Voltage	230V
14.	Input frequency	50/60 Hz +/- 3 Hz Auto-sensing
15.	Input Connections	IEC 320 C14
Batteries and runtime		
16.	Typical recharge time	3hour(s)
17.	Expected Battery Life (years)	4 - 6
Communication and management		
18.	Interface Port(s)	RJ-45 Serial, USB
19.	Control panel	Multifunction LCD status and control console
All Requirements are Mandatory		

SECTION 2: MANDATORY TECHNICAL REQUIREMENTS AND RESPONSIVENESS CHECKLIST FOR EXTENSION OF WLAN (WIFI) COVERAGE

EASA is looking for Virtual SmartZone NFV-based and cloud-ready WLAN controller that manages the entire wireless LAN network and enterprises ready to elevate the WLAN deployment to the next level of flexibility, resiliency and scale. The new system shall be integrated with the existing Ruckus WLAN. Several WIFI access points will also be deployed to cater for Internet signal blind spots.

All Vendors MUST respond in writing against each technical requirement clearly showing technical compliance for each specification against their brochure with references. Marking compliant/non-compliant (√) or (X) will be considered INVALID and WILL NOT BE EVALUATED.

iv. Wireless Network

Table 7 : Wireless network

Wireless network			
No.	Items	Description	Qnty
1.	Virtual SmartZone	Version 3.0 or newer software virtual appliance, 1 Instance, includes 1 AP license.	1
2.	Management License	AP management license for SZ-100/vSZ 3.X/SCG200/SZ300	80
3.	Cabling	UTP Cat 6A cables (Panduit) to be provided.	2 Boxes
4.	Virtual SmartZone	Partner WatchDog Support - VSZ-RTU, for 3 years.	1
5.	Access points	Partner WatchDog Support Per SZ/(v)SZ AP, 3YR.	80
6.	Wireless Installation	Wireless Installation, configuration and integration.	Lot
7.	Accessories	Accessories necessary for cabling and complete installation of the wireless system.	Lot
All Requirements are Mandatory			

v. Virtual SmartZone

Table 8 : Virtual SmartZone

Virtual smart zone		
No.	Item	Specifications Required
1.	Number of APs Supported per controller	Up to 1,000 per controller
2.	Number of APs Supported per cluster	Up to 3,000 per cluster
3.	Number of Switches Supported per controller	Up to 50 per controller
4.	Number of Switches Supported per cluster	Up to 150 per cluster
5.	Clients per controller	Up to 25,000 per controller
6.	Clients per cluster	Up to 60,000 per cluster
7.	Ethernet Ports	1 vNIC
8.	Authentication Support	802.1x, local database, Active Directory, RADIUS, LDAP
9.	Guest Networking / Captive Portal	Yes
10.	AP Discovery and Control	L2/L3
11.	Management Interface	Web, SCI
12.	Management Protocol(s)	SNMP v3
13.	VLAN Support	Dynamic VLANs
14.	Deployment	Private / Public Cloud
All Requirements are Mandatory		

vi. Access Points

Table 9 : Access Points

Access points		
No.	Item	Specifications Required
1.	Quantity	Twenty-Four (24) Ruckus R750
2.	WiFi	IEEE 802.11a/b/g/n/ac/ax
3.	Supported Rates	<ul style="list-style-type: none"> ▪ 802.11ax: 4 to 4800 Mbps ▪ 802.11ac: 6.5 to 3467 Mbps ▪ 802.11n: 6.5 to 600 Mbps ▪ 802.11a/g: 6 to 54 Mbps ▪ 802.11b: 1 to 11 Mbps
4.	MIMO	<ul style="list-style-type: none"> ▪ 8x8 MU-MIMO ▪ 8x8 SU-MIMO
5.	Spatial Streams	<ul style="list-style-type: none"> ▪ 8 MU-MIMO ▪ 8 SU-MIMO
6.	Channelization	20, 40, 80MHz
7.	Modulation	OFDMA (up to 1024-QAM)
8.	Other Wi-Fi Features	<ul style="list-style-type: none"> ▪ WMM, Power Save, TxBF, LDPC, STBC, 802.11r/k/vHotspot ▪ Hotspot 2.0 ▪ Captive Portal
9.	Controller Platform Support	<ul style="list-style-type: none"> ▪ SmartZone ▪ ZD ▪ Standalone
10.	IP	IPv4, IPv6
11.	VLAN	<ul style="list-style-type: none"> ▪ 802.1Q. ▪ BSSID-based (16 BSSIDs / radio). ▪ Port-based. ▪ Dynamic, per user based on RADIUS.
12.	802.1x	<ul style="list-style-type: none"> ▪ Wired & wireless. ▪ Authenticator & Supplicant.
13.	Tunnel	RuckusGRE, SoftGRE.
14.	Policy Management Tools	<ul style="list-style-type: none"> ▪ Application Recognition and Control ▪ Access Control Lists. ▪ Device Fingerprinting.
15.	Ethernet	<ul style="list-style-type: none"> ▪ 1x 1/2.5/5 Gbps port, RJ-45. ▪ 1x 10/100/1000 Mbps port, RJ-45.
16.	USB	1 USB 2.0 port, Type A
17.	Physical Size	<ul style="list-style-type: none"> ▪ 22.19 x 24.96 x 6 cm. ▪ 8.74 x 9.83 x 2.36 in.
18.	Weight	<ul style="list-style-type: none"> ▪ 1.53 kg. ▪ 3.37 lbs.
19.	Mounting	<ul style="list-style-type: none"> ▪ Wall, Acoustic ceiling, Desk. ▪ Secure Bracket (inclusive of Brackets).
20.	Power consumption	DC Power, PoH, uPoE (Max).
21.	System configuration	<ul style="list-style-type: none"> ▪ 5Gbps & 1Gbps Ethernet enabled. ▪ USB Enabled (3W). ▪ Zigbee/BLE Enabled (0.5W).
22.	Wi-Fi Radios	<ul style="list-style-type: none"> ▪ 2.4GHz (4x4) Tx 20 dBm. ▪ 5GHz (8x8) Tx 22 dBm.
All Requirements are Mandatory		

SECTION 3: MANDATORY TECHNICAL REQUIREMENTS AND RESPONSIVENESS FOR SUPPLY, DELIVERY, REMODELING AND MODERNIZATION OF DATACENTER, UPGRADE OF LAN, EXTENSION OF WIFI/CCTV COVERAGE AND INSTALLATION OF CLEAN POWER FOR ICT LABORATORY AT EASA

East Africa School of Aviation (EASA) consider CCTV system a key player in property safety and security management including that of its staff and visitors. It is in this strength that the institute is in the process of upgrading its IP surveillance system by installing additional 43 No cameras to cover the already identified blind spots to enhance coverage and system efficiency. Additionally, Currently EASA has installed different vendor CCTV systems, which are Honeywell, Hikivision and Dahua (Axis). EASA wishes to integrate the various CCTV systems and set up centralized monitoring system.

The extension of CCTV system at EASA will require the following components: -

1. Network Video Recorder - NVR
2. Bullet cameras
3. Dome cameras
4. LED Monitor
5. Video Surveillance Management Software and associated hardware - VMS
6. Point to point Nano station for the main gate CCTV cameras.

All Vendors MUST respond in writing against each technical requirement clearly showing technical compliance for each specification against their brochure with references. Marking compliant/non-compliant (√) or (X) will be considered INVALID and WILL NOT BE EVALUATED.

i. Network Video Recorder- NVR Quantity – 1

Table 1 : Network Video Recorder- NVR Quantity

Network video recorder – NVR – Quantity 1			
No.	Item	Requirement	Specifications
1.	Make and model	Recorder/server storage	128 channel 3U 4K NVR with 20TB storage. HIKIVISION DS-96128NI-I16 or equivalent. Attach colored product brochures.
2.	Video & Audio input	IP video input	128-ch
		Incoming/outgoing bandwidth	576 Mbps/512 Mbps
		Incoming/outgoing bandwidth (RAID mode)	576 Mbps/512 Mbps
		TLS outgoing bandwidth	127 Mbps, or 64 Mbps (when RAID is enabled)
		Protocol	HIKVISION, ACTi, ARECONT, AXIS, BOSCH, BRICKCOM, CANON, HUNT, ONVIF (Version 2.5), PANASONIC, PELCO, RTSP, SAMSUNG, SONY, VIVOTEK, ZAVIO
4.	Video & Audio output	HDMI output	Up to 2 independent HDMI outputs of 4K resolution. Resolution: 4K (4096 × 2160), 4K (3840 × 2160)/30Hz, 2K (2560 × 1440)/60Hz, 1080p (1920 × 1080)/60Hz, UXGA (1600 × 1200)/60Hz, SXGA (1280 × 1024)/60Hz, 720p (1280 × 720)/60Hz, XGA (1024 × 768)/60Hz
		VGA output	1-ch. Resolution: 1080p (1920 × 1080)/60Hz, UXGA (1600 × 1200)/60Hz, SXGA (1280 × 1024)/60Hz, 720p (1280 × 720)/60Hz, XGA (1024 × 768)/60Hz
		LCD output (optional)	At least 7-inch LCD
		Audio output	1-ch. RCA (2.0 Vp-p, 1 KΩ)

Network video recorder – NVR – Quantity 1			
No.	Item	Requirement	Specifications
5.	Video & Audio decoding	Decoding format	H.265, H.265+, H.264, H.264+, MPEG4, MJPEG
		Video resolution	12 MP/8 MP/7 MP/6 MP/5 MP/4 MP/3 MP/1080p/UXGA/720p/VGA/4CIF/DCIF/2CIF/CIF/QCIF
		Synchronous playback	Up to 16 channels
		Capability	3-ch@12 MP (30fps), 5-ch@8 MP (30fps), 6-ch@6 MP (30fps), 10-ch@4 MP (30fps), 20-ch@1080p (30 fps)
6.	HDD	Interface	16 hot-plug SATA interfaces
		Capacity	Up to 10 TB for each HDD
		Storage extension	1 × eSATA interface, 2 × mini SAS interface (optional)
7.	RAID	RAID Type	RAID0, RAID1, RAID5, RAID 6, and RAID10
8.	Network management	Protocol	IPv6, HTTPS, UPnP, SNMP, NTP, SADP, SMTP, NFS, iSCSI, PPPoE, DDNS
		Network interface	4, RJ45 10M/100M/1000M self-adaptive Ethernet interface
9.	External interface	Two-way audio input	1-ch, RCA (2.0 Vp-p, 1 KΩ)
		Serial port	RS-232; RS-485; Keyboard
		USB interface	Front Panel: 2 × USB 2.0; Rear Panel: 2 × USB 3.0
		Alarm input/output	
		Extension board (optional)	Supports extension board with four 10M/100M/1000M optical interfaces (1.25 Gbps SFP module), eight RS-485 interfaces, and alarm interface of 32 alarm inputs and 16 alarm outputs.
10.	General	Power supply	110 to 250 VACS, 50 to 60Hz, 5 A
		Fan	Dual ball bearing fan
		Consumption (without HDD)	≤ 145W
		Working temperature	0 °C to + 60 °C
		Working humidity	10% to 90%
		Dimension (W × D × H)	443 × 495 × 147 mm
		Weight (without HDD)	≤ 16 kg (35.3 lb)

All Requirements are Mandatory.

ii. Bullet Network Camera - Quantity 20

Table 2 : Bullet Network Camera

Bullet Network Camera		
No.	Requirement	Specifications
1.	Make and model	MP4 IP Network camera - HIKIVISION DS-2CD2T46G2-21/41 or equivalent. Attach colored product brochures.
2.	Image Sensor	1/3" Progressive Scan CMOS
3.	Min. Illumination	Color: 0.003 Lux @ (F1.4, AGC ON), B/W: 0 Lux with IR
4.	Shutter Speed	1/3 s to 1/100,000 s
5.	Day & Night	IR cut filter
6.	Angle Adjustment	Pan: 0° to 360°, tilt: 0° to 90°, rotate: 0° to 360°
7.	Slow Shutter	Yes
8.	P/N	P/N
9.	Wide Dynamic Range	120 dB
Lens		
10.	Lens Type	Fixed focal lens, 2.8, 4.00 mm optional
11.	Focal Length & FOV	2.8 mm, horizontal FOV 104°, vertical FOV 55°, diagonal FOV 125° 4 mm, horizontal FOV 83°, vertical FOV 46°, diagonal FOV 99°
12.	Aperture	F1.4
13.	Lens Mount	M12
14.	Iris Type	Fixed
DORI		
15.	DORI	2.8 mm: D: 60.0 m, O: 23.8 m, R: 12.0 m, I: 6.0 m 4 mm: D: 80.0 m, O: 31.7 m, R: 16.0 m, I: 8.0 m
Illuminator		
16.	IR Range	Up to 60 m
17.	IR Wavelength	850 nm
18.	Smart Supplement Light	Yes
19.	Supplement Light Type	IR
Video		
20.	Max. Resolution	2688 × 1520
21.	Main Stream	50 Hz: 25 fps (2688 × 1520, 1920 × 1080, 1280 × 720)
		60 Hz: 30 fps (2688 × 1520, 1920 × 1080, 1280 × 720)
22.	Sub-Stream	50 Hz: 25 fps (640 × 480, 640 × 360)
		60 Hz: 30 fps (640 × 480, 640 × 360)
23.	Third Stream	50 Hz: 10 fps (1920 × 1080, 1280 × 720, 640 × 480, 640 × 360)
		60 Hz: 10 fps (1920 × 1080, 1280 × 720, 640 × 480, 640 × 360)
		Third stream supported through special configurations.
24.	Video Compression	Main stream: H.265/H.264/H.265+/H.264+ Sub-stream: H.265/H.264/MJPEG
		Third stream: H.265/H.264
		Third stream supported through special configurations.
25.	Video Bit Rate	32 Kbps to 8 Mbps
26.	H.264 Type	Baseline Profile/Main Profile/High Profile
27.	H.265 Type	Main Profile
28.	H.264+	Main stream supports
29.	H.265+	Main stream supports

Bullet Network Camera		
No.	Requirement	Specifications
30.	Bit Rate Control	CBR/VBR
31.	Scalable Video Coding	H.264 and H.265 encoding
32.	Region of Interest (ROI)	Up to 1 region for main stream and sub-stream
Network		
33.	Simultaneous Live View	6 channels
34.	API	PROFILE S, PROFILE G, PROFILE T, ISAPI, SDK
35.	Protocols	TCP/IP, ICMP, HTTP, HTTPS, FTP, DHCP, DNS, DDNS, RTP, RTSP, NTP, UPnP, SMTP, IGMP, 802.1X, QoS, IPv4, IPv6, UDP, Bonjour, SSL/TLS, PPPoE, SNMP, ARP, WebSocket,
36.	User/Host	35 users. 4 user levels
37.	Security	Password protection, complicated password, HTTPS encryption, IP address filter, Security Audit Log, basic and digest authentication for HTTP/HTTPS, TLS 1.1/1.2, WSSE and digest authentication for Open Network Video Interface
38.	Network Storage	MicroSD/SDHC/SDXC card (256 GB) local storage, and NAS (NFS, SMB/CIFS), auto network replenishment (ANR)
		Together with high-end memory card, memory card encryption and health detection are supported
39.	Client	Supports Genetec, Milestone Wisenet, hikvision, axxon etc.
40.	Web Browser	Plug-in free live view: Chrome 57.0+, Firefox 52.0+ Local service: Chrome 57.0+, Firefox 52.0+
Image		
41.	SNR	≥ 52 dB
42.	Day/Night Switch	Day, Night, Auto, Schedule
43.	Image Enhancement	BLC, HLC, 3D DNR
44.	Image Parameters Switch	Yes
45.	Image Settings	Rotate mode, saturation, brightness, contrast, sharpness, gain, white balance adjustable by client software or web browser
Interface		
46.	On-Board Storage	Built-in micro-SD slot, up to 256 GB
47.	Reset Key	Yes
48.	Ethernet Interface	1 RJ45 10 M/100 M self-adaptive Ethernet port
Event		
49.	Basic Event	Motion detection (human and vehicle targets classification), video tampering alarm, exception
50.	Smart Event	Scene change detection
Deep Learning Function		
51.	Face Capture	Yes
52.	Perimeter Protection	Line crossing detection, intrusion detection, region entrance detection, region exiting detection

All the Requirements are Mandatory

iii. Dome Network Camera - Quantity 21

Table 3: Dome Network Camera

Dome Network Camera		
No.	Requirement	Specifications
1.	Make and model	4MP IP Network camera - HIKIVISION DS-2CD2146G2-I(SU) or equivalent. Attach colored product brochures.
2.	Image Sensor	1/3" Progressive Scan CMOS
3.	Min. Illumination	Color: 0.003 Lux @ (F1.4, AGC ON), B/W: 0 Lux with IR
4.	Shutter Speed	1/3 s to 1/100,000 s
5.	Day & Night	IR cut filter
6.	Angle Adjustment	Pan: 0° to 355°, tilt: 0° to 75°, rotate: 0° to 355°
7.	Slow Shutter	Yes
8.	P/N	P/N
9.	Wide Dynamic Range	120 dB
Lens		
10.	Focal Length & FOV	2.8 mm, horizontal FOV 105°, vertical FOV 57°, diagonal FOV 125° 4 mm, horizontal FOV 85°, vertical FOV 47°, diagonal FOV 100°
11.	Lens Type	Fixed focal lens, 2.8, and 4mm optional
12.	Aperture	F1.4
13.	Lens Mount	M12
14.	Iris Type	Fixed
DORI		
15.	DORI	2.8 mm: D: 60.0 m, O: 23.8 m, R: 12.0 m, I: 6.0 m 4 mm: D: 80.0 m, O: 31.7 m, R: 16.0 m, I: 8.0 m
Illuminator		
16.	IR Range	30 m
17.	IR Wavelength	855 nm
18.	Smart Supplement Light	Yes
19.	Supplement Light Type	IR
Video		
20.	Max. Resolution	2688 × 1520
21.	Main Stream	50 Hz: 25 fps (2688 × 1520, 1920 × 1080, 1280 × 720)
		60 Hz: 30 fps (2688 × 1520, 1920 × 1080, 1280 × 720)
22.	Sub-Stream	50 Hz: 25 fps (640 × 480, 640 × 360)
		60 Hz: 30 fps (640 × 480, 640 × 360)
23.	Third Stream	50 Hz: 10 fps (1920 × 1080, 1280 × 720, 640 × 480, 640 × 360)
		60 Hz: 10 fps (1920 × 1080, 1280 × 720, 640 × 480, 640 × 360)
		Third stream supported through special configurations.
		Main stream: H.265/H.264/H.265+/H.264+ Sub-stream: H.265/H.264/MJPEG Third stream: H.265/H.264
24.	Video Compression	Third stream supported through special configurations.
25.	Video Bit Rate	32 Kbps to 8 Mbps
26.	H.264 Type	Baseline Profile/Main Profile/High Profile
27.	H.265 Type	Main Profile
28.	H.264+	Main stream supports
29.	H.265+	Main stream supports
30.	Bit Rate Control	CBR/VBR

Dome Network Camera		
No.	Requirement	Specifications
31.	Scalable Video Coding (SVC)	H.264 and H.265 encoding
32.	Region of Interest (ROI)	1 region for main stream and sub-stream
Audio		
33.	Environment Noise Filtering	-S: Yes
34.	Audio Sampling Rate	-S: 8 kHz/16 kHz/32 kHz/44.1 kHz/48 kHz
35.	Audio Compression	-S: G.711ulaw/G.711alaw/G.722.1/G.726/MP2L2/PCM/MP3/AAC
36.	Audio Bit Rate	-S: 64 Kbps (G.711ulaw/G.711alaw)/16 Kbps (G.722.1)/16 Kbps (G.726)/32 to 192 Kbps (MP2L2)/8 to 320 Kbps (MP3)/16 to 64 Kbps (AAC)
Network		
37.	Simultaneous Live View	6 channels
38.	API	PROFILE S, PROFILE G, PROFILE T, ISAPI, SDK
39.		TCP/IP, ICMP, HTTP, HTTPS, FTP, DHCP, DNS, DDNS, RTP, RTSP, NTP, UPnP, SMTP, IGMP, 802.1X, QoS, IPv4, IPv6, UDP, Bonjour, SSL/TLS, PPPoE, SNMP, ARP, WebSocket,
40.	Protocols	WebSocket
41.	User/Host	35 users. 4 user levels
42.	Security	Password protection, complicated password, HTTPS encryption, IP address filter, Security Audit Log, basic and digest authentication for HTTP/HTTPS, TLS 1.1/1.2, WSSE and digest authentication for Open Network Video Interface
43.	Network Storage	MicroSD/SDHC/SDXC card (256 GB) local storage, and NAS (NFS, SMB/CIFS), auto network replenishment (ANR) Together with high-end memory card, memory card encryption and health detection are supported
44.	Client	Supports Genetec, Milestone Wisenet, hikvision, axxon etc.
45.	Web Browser	Plug-in free live view: Chrome 57.0+, Firefox 52.0+ Local service: Chrome 57.0+, Firefox 52.0+
Image		
46.	SNR	≥ 52 dB
47.	Day/Night Switch	Day, Night, Auto, Schedule
48.	Image Enhancement	BLC, HLC, 3D DNR
49.	Image Parameters Switch	Yes
50.	Image Settings	Rotate mode, saturation, brightness, contrast, sharpness, gain, white balance adjustable by client software or web browser
Interface		
51.	Alarm	-S: 1 input, 1 output (max. 12-14 VDC, 30 mA)
52.	Audio	-S: 1 input (line in), two-core terminal block, max. input amplitude: 3.3 Vpp, input impedance: 4.7 KΩ, interface type: non-equilibrium; 1 output (line out), two-core terminal block, max. output amplitude: 3.3 Vpp, output impedance: 100 Ω, interface type: non-equilibrium
53.	Built-in Microphone	-U: Yes
54.	On-Board Storage	Built-in memory card slot, support microSD/SDHC/SDXC card, up to 256 GB
55.	Reset Key	Yes

Dome Network Camera		
No.	Requirement	Specifications
56.	Ethernet Interface	1 RJ45 10 M/100 M self-adaptive Ethernet port
Event		
57.	Basic Event	Motion detection (human and vehicle targets classification), video tampering alarm, exception
58.	Smart Event	Scene change detection
Deep Learning Function		
59.	Face Capture	Yes
60.	Perimeter Protection	Line crossing detection, intrusion detection, region entrance detection, region exiting detection
All Requirements are Mandatory		

iv. LED Monitor – Quantity 1

Table 4: LED Monitor

	Requirement	Specifications	Bidder's Response
1.	Screen Size	At least 62 Inch QLED Smart Screen	
2.	Make and Model	<ul style="list-style-type: none"> ▪ Samsung or equivalent. ▪ Make and Model to be clearly specified ▪ Product datasheets to be provided 	
3.	Layout	Flat	
4.	Resolution	ULTRA HD(4K)	
5.	Backlight	QLED	
6.	LAN Support	Built-In	
7.	Wi-Fi Support	Built-In	
8.	Other Supported Interface	<ul style="list-style-type: none"> ▪ Mira Cast ▪ Mobile HD Link ▪ Wi-Di ▪ Wi-Fi Direct 	
9.	Ports	<ul style="list-style-type: none"> ▪ HDMI - 3 ▪ USB – 3 ▪ Component and AV 	
10.	OS	NetCast 4.5	
11.	Processor	LM 14	
12.	Other Requirements	<ul style="list-style-type: none"> ▪ Remote Control ▪ Built-in micropixel control ▪ Resolution Upscaler 	
13.	Multi-display mode	<ul style="list-style-type: none"> ▪ The smart screens should be mounted next to each other. ▪ They should be configured such that they are displaying the same content. This configuration should be flexible to remove easily on need basis. 	
14.	Service Requirements	<ul style="list-style-type: none"> ▪ Installation and mounting of the Screens ▪ The mountings and all cabling should be in-wall trunked and professionally installed 	
15.	Warranty	Three (3) year Warranty	
All Requirements are Mandatory			

v. Specifications for Point to point Nano station for the main gate CCTV cameras.

The Nano station will be used at the main gate to relay CCTV images to the main server since there is no internet connectivity at the main gate.

Table 5: Point-to-Point Nano station technical specifications.

Point-to-Point Nano station technical specifications.		
No	Requirement	specifications
1.	Make and model	Ubiquiti M5 NANO Station or equivalent – attach colored product brochures.
2.	Dimensions	295 x 31 x 81 mm
3.	Weight	410 g
4.	Power Supply (PoE)	24V, 0.5A
5.	Max. Power Consumption	8.5W
6.	Power Method	Passive PoE (Pairs 4, 5+; 7, 8 Return)
7.	Operating Frequency	5170-5875 MHz
8.	Gain	14.6-16.1 dBi
9.	Networking Interface	(2) 10/100 Ethernet Ports
10.	Processor Specs	Atheros MIPS 74Kc, 560 MHz
11.	Memory	64 MB DDR2, 8 MB Flash
12.	Frequency	5 GHz
13.	Cross-pol Isolation	22 dB Minimum
14.	Max. VSWR	1.6:1
15.	Beamwidth	44° (H-pol) / 41° (V-pol) / 15° (Elevation)
16.	Polarization	Dual Linear
17.	Enclosure	Outdoor UV Stabilized Plastic
18.	Mounting	Pole-Mount (Kit Included)
19.	Operating Temperature	-30 to 75° C (-22 to 167° F)
20.	Operating Humidity	5 to 95% Noncondensing
21.	Wireless Approvals	FCC Part 15.247, IC RS210, CE
22.	RoHS Compliance	Yes
23.	Shock & Vibration	ETSI300-019-1.4
24.	Output power	27 dBm

vi. Video Management Software and Hardware

Currently EASA has installed different vendor CCTV systems, which include Honeywell, Hikivision and Dahua (Axis). EASA wishes to integrate the CCTV systems and set up centralized monitoring system with the following scope: -

4. Honeywell – 25 cameras 1 NVR
5. Hikivision – 35 cameras 2 NVRs
6. Dahua (Axis) – 22 cameras 1 NVR

The scope will also include 1 NVR and 43 cameras proposed in this project. The total number of cameras will therefore be 125 and 5 NVRs. The VMS should use a software that is able to obtain and consolidate live feeds from the various cameras already installed and read, rewind and review recorded footage from the various NVRs.

Table 6: Video Management Software and Hardware

Video Management Software and Hardware		
No.	Item	Description
1.	VMS make and model	Milestone HE1000R-128TB Husky IVO 1000 WS19 or equivalent. Attach product brochure.
2.	Throughput	Up to 1080 Mbit/s
3.	Local storage	At least 128 TB on at least 8 disk bays
4.	Form factor	Rack mount 2U
5.	RAM	At least 16GB DDR4
6.	OS	At least Windows Server 2019 IoT Essentials
7.	VMS/OS Drive	2 x 240GB (RAID 1), M.2 SSDs
8.	Network interface	4 x 1 GbE (RJ45)
9.	RAID Controller & Support	PERC H730P with Cache & Battery & Flash backup RAID 0,1,5,6,10,50,60 RAID 5,6,10
10.	Channels	At least 150 with video motion detection recording
11.	Video framerate	Should have a video framerate evaluation algorithm that facilitates motion detection.
12.	Centralized system management	Should allow the system admin to view video from different locations and manage all of their respective recorders and cameras from one location. The Centralized management should allow the system admin to push configuration, firmware updates and device settings to all video recorders and cameras.
13.	Scalability	The VMS should be able to support a very large, or even unlimited, number of recording devices and IP cameras.
14.	Health monitoring and alerts	The VMS should offer a robust system health-monitoring feature that ensures all connected cameras and recorders are in proper working order. It should have alerts on faults like hard drive failure or camera disconnections.
15.	Customizable user management	The VMS should allow the ability to control system access, limit who access the system, how frequently and what those users can see. Should be able to track user activities and support LDAP integration.
16.	Support for third-party products	The VMS should support a mix of IP cameras and access control system from different manufacturers and provide a path forward by supporting the integration of third-party products.
17.	Bandwidth management features	The VMS should provide control over the amount of bandwidth uploaded to and from the various NVRs or servers. This feature should allow regulation of network traffic and minimize bandwidth congestion.
18.	Recording flexibility	The VMS should provide recording flexibility, which allows selectively record on motion, set maximum retention periods, or only record HD video on specific alarms.
19.	Integration	Integration with running NVRS
20.	Testing	Testing to confirm functionality
All Requirements are Mandatory		

SECTION 4: MANDATORY TECHNICAL REQUIREMENTS AND RESPONSIVENESS CHECKLIST FOR MIGRATION, MANAGEMENT OF LIVE SYSTEMS/SERVICES, PROJECT MANAGEMENT, TRAINING, SLA SERVICES AND OTHER REQUIREMENTS

All Vendors MUST respond in writing against each technical requirement clearly showing technical compliance for each specification against their brochure with references. Marking compliant/non-compliant (√) or (X) will be considered INVALID and WILL NOT BE EVALUATED.

vi. Migration and Management of LIVE EASA Network Infrastructure Systems and Services

1. Minimal interruptions are expected during the overhaul of the entire LAN and extension of WLAN and CCTV coverage.
2. LAN overhaul should be carried out with no interruption to the operating environment.
3. The bidder is expected to install the new LAN before completely removing the old LAN to ensure continuity of services.
4. The extension of WIFI and CCTV should be carried out with no interruption to the operating environment.

Table 1: Migration and Management of LIVE EASA Network Infrastructure Systems and Services

Migration and Management of LIVE EASA Network Infrastructure systems and Services	
No.	Requirements
1.	Work on the new LAN first before migrating the network services.
2.	LAN overhaul should be carried out with no interruption to the operating environment
3.	The bidder is expected to install the new LAN before completely removing the old LAN to ensure continuity of services
4.	The extension of WIFI and CCTV should be carried out with no interruption to the operating environment.
5.	The bidder should provide a practical proposal of how they shall ensure that the operations in offices where LAN will traverse will remain operational and unencumbered during the overhaul of the LAN.
6.	Given that the network services are in use, the bidder should provide a practical proposal on how they shall ensure network service provision whilst deploying the new network.
All Requirements are Mandatory	

vii. Project Management

Table 2: Project Management

Project management	
No.	Requirements
1.	A detailed technical proposal entailing the following: - b. The bidder’s understanding of the EASA network infrastructure problem and a narrative of the solution. b. As per the information provided in the technical mandatory documentation, details of all the proposed staff to work on the solution.
2.	Mandatory letter to KCAA providing assurance that the project will be completed in six (6) months after contract activation. The actual implementation of the new network infrastructure after the equipment and devices have been delivered should last less than four (4) weeks.
3.	A Comprehensive Project Implementation Plan to be attached.
4.	Ten percent (10%) performance guarantee to be provided on after contract signing.
5.	Bidder to provide their methodology for quality assurance on the following aspects of the entire project: - f. Overhaul of EASA LAN infrastructure g. Extension of EASA WLAN (WiFi) coverage h. Extension of EASA CCTV coverage i. Disposal of obsolete items, migration of equipment and data, technical training, and knowledge transfer j. Migration of existing equipment
All Requirements are Mandatory	

viii. Training and Knowledge Transfer

Table 3: Training and Knowledge Transfer

Training and Knowledge Transfer		
No.	Specifications Required	Bidder's Response and reference
1.	<p>Boot camp training for Cisco Certified Network Associate (200-301 CCNA - Extended) for four (4) ICT staff. The training should entail: -</p> <ul style="list-style-type: none"> a. The expected delivery Method is Instructor-LED. b. Training Duration: Eight (8) days. c. The training MUST be conducted by a CNNA Internationally recognized/accredited institution with instructors, and on-site labs. d. The training MUST be conducted in another city outside Nairobi to offer participants ample training time outside the office. e. Bidder MUST include all costs for the training and DSA based on purchaser's standard rate. These costs include but not limited to transport and subsistence allowance. f. All training materials, exam revision kits, Certification and exam costs should be included. 	
2.	On site knowledge and skills transfer for network infrastructure, CCTV and WIFI systems.	
All Requirements are Mandatory		

ix. Service Level Agreement – Networks

Table 4: Service Level Agreement – Networks

Service Level Agreement - Networks		
No.	Item	Requirement
1.	Maintenance and Support Term	The maintenance and support period is three (3) years.
2.	Handholding	An undertaking that the vendor will provide support and maintenance of the new LAN infrastructure for a period of six months from the date of issuance of completion certificate
3.	Active devices to be maintained and supported	<p>The active devices and all their sub-components includes but it is not limited to:</p> <ul style="list-style-type: none"> a. CISCO switches b. Wireless LAN c. CCTV system d. Any other network infrastructure component
4.	Passive Devices/Equipment to be maintained and supported	<ul style="list-style-type: none"> a. Server racks b. Structured cabling (Ethernet) c. Cable management d. Dual power connections for all supported equipment
5.	Preventive Maintenance	<ul style="list-style-type: none"> a. Health checks for all active and passive devices/equipment b. Firmware and software upgrades as applicable c. Equipment/devices cleaning to remove dust and residue accumulation d. Testing of equipment and devices e. Review of logs and alerts for equipment where applicable f. Check for any safety hazards g. Inspection of equipment and removal of zombie devices and loose cabling h. Check any presence of corrosion, dust/residue accumulations, dripping water, unusual equipment noises etc i. Inspect overall cleanliness, temperature levels, ventilation obstructions and access hindrances j. Sign checklists for each device/item k. The required preventive maintenance duration is four working days
6.	Corrective Maintenance	To be undertaken immediately a maintenance component fails. Where an item requires a replacement, KCAA shall procure the parts of maintenance

Service Level Agreement - Networks		
No.	Item	Requirement
		components. Where downtime is required, this shall be arranged with the KCAA systems administration team for approval prior to the required downtime.
7.	Outage Severity Levels and Required Response Times	<p>a. Severity One/Red: KCAA is unable to do their business as a result of complete or partial system failure. This has a major impact on the KCAA's business operations. <u>Response:</u> The vendor should respond within one (1) hour. A resolution or a workaround should be provided within two (2) hours.</p> <p>b. Severity Two/Orange: The problem has high visibility and impacts on the way KCAA does business. The network service is disrupted but not halted. The system performance may be degraded, or functions limited. <u>Response:</u> The vendor should respond within three (3) hours. A resolution or a workaround should be provided within twelve (12) hours.</p> <p>c. Severity Three/Green: A single component or several components are affected with or without a work around. The problem may affect KCAA's efficiency but is limited in visibility and does not prevent work from being completed. <u>Response:</u> The vendor should respond within twelve (12) hours. A resolution or a workaround should be provided within seventy-two (72) hours.</p>
8.	Fault Logging Procedure and Reporting	<p>a. The vendor to provide a support service desk email and a telephone number manned 24/7 for logging faults and a fault should be allocated a reference number for ease of tracking.</p> <p>b. Response to faults logs shall be undertaken as per the response times based on severity levels.</p> <p>c. Once a red or orange level fault is resolved, a report should be provided entailing the following: -</p> <p>d. The root cause analysis</p> <p>e. The measures taken to resolve it</p> <p>f. The measures taken to ensure it does not recur</p>
9.	Escalations	<p>The vendor shall provide two escalation levels after a fault is reported and left unattended. Phone numbers and email addresses of the escalation levels shall be required. The levels are as follows: -</p> <p>a. Level 0 – Normal helpdesk reporting after a fault.</p> <p>b. Level 1 – Technical manager or service provision manager after the response times for resolution are not met.</p> <p>c. Level 2 – The CEO after the required response times are not met after escalating to level 2.</p>
10.	Maintenance and Support Services	<p>a. Ensuring a stable and secure network infrastructure system at all times.</p> <p>b. Maintenance and support should include Cisco equipment and software.</p> <p>c. Consultation for guidance on complex procedures and processes in configuration and integration of the Software Defined Network Solution.</p> <p>d. Assistance in configuration of the Solution in case of failure of any part of the System.</p> <p>e. Configuration of the Solution to optimize performance.</p> <p>f. Installation and Configuration of new hardware accessories when KCAA acquires them.</p> <p>g. Support and assistance on matters concerning security upgrades and any Service Pack installations.</p> <p>h. Bugs and Errors resolution as far as the Cisco software Defined Network is concerned.</p> <p>i. Receive, classify, log and track all reported issues and provide case updates until the issues is conclusively resolved.</p> <p>j. Provide urgent security alerts on the version deployed by the client.</p>

Service Level Agreement - Networks		
No.	Item	Requirement
		<ul style="list-style-type: none"> k. Troubleshooting and provide workarounds assistance where existing system cannot perform some of the tasks. l. Installation and configuration advice to KCAA ICT technical staff. m. Answering questions and providing a reasonable level of guidance to KCAA about the Cisco switches and Software Defined Network. n. Provide trained Technical Support personnel to handle inquiries and problems. o. Provide documentation updates and major system releases information. p. Provide pro-active maintenance release announcements sent to customer directly. q. Participate in failover and failback tests for the KCAA remote disaster recovery site.
11.	Infrastructure Upgrades	<p>Occasionally the Authority will make plans for replacement of the infrastructure. The vendor will be required to: -</p> <ul style="list-style-type: none"> a. Make recommendations for infrastructure (switches, Network Access Points) upgrades to KCAA. b. Undertaking infrastructure upgrades as requested by KCAA.
12.	SLA Costs	<p>All costs pertaining to the preventive maintenance shall be borne by the vendor. These include: -</p> <ul style="list-style-type: none"> a. Materials required for the preventive maintenance e.g. cleaning agents etc. b. All equipment required for the SLA like blowers, drills, brushes et al. c. Costs of facilitation and transportation of vendor's staff and equipment to the site. d. Any site access related costs charged by KAA or any other Government Agency.
13.	SLA Payments	<p>Payments pertaining the three-year SLA shall be paid semi-annually in arrears, invoicing and provision of SLA (maintenance and support) reports applicable for the payment period.</p>
14.	Sample SLA	<p>The vendor shall provide a sample SLA that meets all the above provisions for adoption in the contract.</p>

x. Other hardware requirements for LOT 2

Two laptop computers and two tablet computers will be required for network management and monitoring.

1. Laptop computers – Quantity 3

Table 5: Laptop computers

Laptop computers specifications – Quantity 3		
NOTE: ALL THE REQUIREMENTS ARE MANDATORY		
	Item	Specifications Required
1.	Make and Model	Lenovo TB 15-ITL OR Equivalent laptop
2.	Brochure	Bidders MUST provide/attach a product brochure/ datasheet/ catalogue of the laptop they are providing
3.	Processor	11th Generation Intel® Core™,i7-1165G7 (4 Core, 12M Cache, base 2.8 GHz, up to 4.7 GHz)
4.	Memory	8 GB, 1X8 GB 3200MHz DDR4 Non-ECC
5.	Storage	512 GB PCIe NVMe Class 35 Solid State Drive(SSD)
6.	Operating System	Microsoft Windows 10 Pro 64 Bit Installed with License
7.	Battery	3 Cell 45Whr,65W
8.	Display	15.6" FHD TN,720p HD
9.	Mouse	3 Button wireless Mouse - Same Brand as the Laptop
10.	Mouse Pad	Branded Mouse Pad with Gel Wrist Rest
11.	Graphics	Intel® Iris® Xe graphics for i7-1165G7 processor
12.	Power Adapter	220-240V Smart 65 W External AC power adapter
13.	Network and Wireless	RJ-45 Ethernet port. Intel Dual Band Wi-Fi 6 AX201 2x2 802.11ax 160MHz + Bluetooth 5.1
14.	Webcam	720p at 30 fps HD camera, single integrated microphone 720p at 30 fps HD + IR camera, dual-array microphone
15.	Keyboard	Single Pointing Non-Backlit Keyboard, US English, 10 Key Numpad
16.	Ports/slots	<ul style="list-style-type: none"> ▪ Thunderbolt™ 4 ▪ USB-C 3.2 Gen 2 (DP/PD) ▪ 2 x USB-A 3.0 Gen 1 (1 always on) ▪ HDMI ▪ RJ45 ▪ 4-in-1 card reader (SD/SDHC/SDXC/MMC) ▪ Headphone / mic combo ▪ Kensington NanoSaver™ lock slot
17.	Security Lock	At least 1.5 Meters 4-Digit Password Security Laptop Lock Compatiblewith Kensington NanoSaver™ lock slot OR Equivalent
18.	Bag	Executive Genuine labelled Leather Laptop Backpack Bag - Same Brand as the Laptop
19.	Warranty	1 Year Warranty. To protect warranty, equipment MUST be for EMEA region sourced through the local authorized distributor (Rendington, Mitsumi, Westcon, Niti etc) channels (Evidence required showing the details of distributor the equipment were sourced to be accepted). Equipment to be delivered with original manufacturer packaging untampered with. Warranty for each equipment will be confirmed from the manufacturers website and all equipment not meeting warranty requirement or whose packaging is tampered will not be accepted.
20.	Delivery Period	8 Weeks

PART 3: DETAILED BILL OF QUANTITIES

The bill of quantities shall be guided by the site survey conducted at EASA. The following list is not exhaustive and bidders are at liberty to include any other item necessary after conducting the site survey.

Table 6: Detailed Bill Of Quantities

No	Item description	Quantity	Site survey results	Remarks
Lot 1				
Data center requirements				
1.	Raised Floor	lot		
2.	Monitoring Room Furniture and Equipment	lot		
3.	Ceiling	lot		
4.	Lighting System	lot		
5.	Datacenter Doors and window	lot		
6.	Server racks	5		
7.	80 KVA UPSs	2		
8.	100 KVA AVR	1		
9.	Air conditioning	Lot		
10.	Fire detection and suppression.	lot		
11.	Data center networking and cordage	lot		
12.	Core switch - Catalyst 9500	1		
13.	Data center CCTV	Cameras – 6 NVR - 1		
14.	Access control with 4 biometric devices	Lot		
15.	Monitoring and management system	Lot		
16.	Other Data center accessories	Lot		
17.	Data center design;- <ul style="list-style-type: none"> • Design of Space Utilization • Utility Room Design Monitoring Room Design	Lot		
18.	Expansion of the Datacenter Area	lot		
19.	Partitioning	lot		
20.	Power configuration and management.			
21.	Professional services – installation, configuration, migration, integration and testing			
22.	Disposal			
Clean power for ICT Lab requirements				
1.	20 KVA APC UPS	1		
2.	Earthing and Lightning Protection Kit	Lot		
3.	Main AC distribution board	1		
4.	AC changeover 100A	1		
5.	35mm armored cable 4 core	Lot		
6.	10mm armored cable 4 core	Lot		
7.	Cable lugs for 35mm	Lot		
8.	Cable lugs for 10mm	Lot		
9.	Complete MCCBs for the Raw power	Lot		
10.	Complete MCCBs for the clean power	Lot		
11.	Installation accessories	Lot		
12.	Phase failure board LED lighting	Lot		
13.	Required labour and installation costs	Lot		
14.	Professional services.	Lot		

Other Requirements for LOT 1				
1.	Decommissioning of old data center and migration to new data center.	Lot		
2.	Management of live systems and services	Lot		
3.	Project management	Lot		
4.	Keys Management system	Lot		
5.	Training	Lot		
6.	Knowledge transfer	Lot		
7.	SLA services – 36 months.	Lot		
LOT 2				
OVERHAUL OF NETWORK INFRASTRUCTURE - LAN requirements				
1.	8 Core Armored MM Fiber Cable /Metres	1600 Metres		
2.	48-Port Complete Fiber patch panel	20		
3.	24-Port Complete Fiber patch panel	6		
4.	Fiber Pigtails	98		
5.	1 Metre Fiber Patch Cord/MM	56		
6.	Cat 6A UTP Cable/Boxes	108		
7.	Dual Points	323		
8.	Power Ordinary Dual Points	336		
9.	Power USB Dual Points	76		
10.	1 Metre Patch Cords	1108		
11.	3 Metre Patch Cords	469		
12.	48 Port UTP Patch Panel	46		
13.	24 Port UTP Patch Panel	8		
14.	1U Cable Manager	52		
15.	42U Cabinet	5		
16.	22U Cabinet	8		
17.	12U Cabinet	3		
18.	1.5 rack mount UPS	12		
19.	50 x 50 Compartment Powder Coated Metal trunking/lengths	4		
20.	100 x 50 x 2 Compartment Powder Coated Metal trunking/lengths	36		
21.	300 x 50 x 2 Compartment Powder Coated Metal trunking/lengths	626		
22.	Network switches transceivers	54		
23.	24 port access switch Catalyst 9300L	3		
24.	48 port access switch Catalyst 9300L	20		
25.	Civil works	Lot		
26.	Horizontal and backbone cabling	Lot		
27.	PABX Cabling	Lot		
28.	Other network cabling accessories	Lot		
29.	Professional services.	Lot		
Requirements for extension of WLAN (WIFI)				
1.	Virtual Smartzone Controller	1		
2.	Management licenses	80		
3.	Cabling	Lot		
4.	Partner WatchDog support for virtual smartzone – 3 years	1		
5.	Partner WatchDog support for access points – 3 years.	80		
6.	Professional service – installation, configuration, integration and testing	Lot		
7.	Accessories	Lot		
8.	WIFI access points – Ruckus R750	24		

Requirements for extension of CCTV Coverage				
1.	Network video recorder	1		
2.	Bullet cameras	20		
3.	Dome cameras	21		
4.	LED Monitor	1		
5.	Video Surveillance Management Software and associated hardware.	1		
6.	Point to point Nano station.	Lot		
7.	Cabling			
8.	Other accessories	Lot		
9.	Professional services.	Lot		
Other Requirements for LOT 2				
8.	Decommissioning of old network infrastructure and migration to new network.	Lot		
9.	Migration and Management of live systems and services	Lot		
10.	Project management	Lot		
11.	Laptop computers	3		
12.	Training	Lot		
13.	Knowledge transfer			
14.	SLA services – 36 months	Lot		

PART 3 – CONDITIONS OF CONTRACT AND CONTRACT FORMS

Section VI - General Conditions of Contract

General Conditions of Contract

A. CONTRACT AND INTERPRETATION

a) Definitions

i. In this Contract, the following terms shall be interpreted as indicated below.

1. Contract Elements

1. "Contract" means the Contract Agreement entered into between the Procuring Entity and the Supplier, together with the Contract Documents referred to therein. The Contract Agreement and the Contract Documents shall constitute the Contract, and the term "the Contract" shall in all such documents be construed accordingly.
2. "Contract Documents" means the documents specified in Article 1.1 (Contract Documents) of the Contract Agreement (including any amendments to these Documents).
3. "Contract Agreement" means the agreement entered into between the Procuring Entity and the Supplier using the form of Contract Agreement contained in the Sample Contractual Forms Section of the tender documents and any modifications to this form agreed to by the Procuring Entity and the Supplier. The date of the Contract Agreement shall be recorded in the signed form.
4. "GCC" means the General Conditions of Contract.
5. "SCC" means the Special Conditions of Contract.
6. "Technical Requirements" means the Technical Requirements in Section VII of the tendering documents.
7. "Implementation Schedule" means the Implementation Schedule in Section VII of the tendering documents.
8. "Contract Price" means the price or prices defined in Article 2 (Contract Price and Terms of Payment) of the Contract Agreement.
9. "Procurement Regulations" refers to the Regulations issued under the Public Procurement and Asset Disposal Act (2015).
10. "tendering documents" refers to the collection of documents issued by the Procuring Entity to instruct and inform potential suppliers of the processes for tendering, selection of the winning tender, and Contract formation, as well as the contractual conditions governing the relationship between the Procuring Entity and the Supplier. The General and Special Conditions of Contract, the Technical Requirements, and all other documents included in the tendering documents reflect the Procurement Regulations that the Procuring Entity is obligated to follow during procurement and administration of this Contract.

2. Entities

1. "Procuring Entity" means the entity purchasing the Information System, as **specified in the SCC**.
2. "Project Manager" means the person **named as such in the SCC** or otherwise appointed by the Procuring Entity in the manner provided in GCC Clause 18.1 (Project Manager) to perform the duties delegated by the Procuring Entity.
3. "Supplier" means the firm or Joint Venture whose tender to perform the Contract has been

accepted by the Procuring Entity and is named as such in the Contract Agreement.

4. "Supplier's Representative" means any person nominated by the Supplier and named as such in the Contract Agreement or otherwise approved by the Procuring Entity in the manner provided in GCC Clause 18.2 (Supplier's Representative) to perform the duties delegated by the Supplier.
5. "Subcontractor" means any firm to whom any of the obligations of the Supplier, including preparation of any design or supply of any Information Technologies or other Goods or Services, is sub contracted directly or indirectly by the Supplier.
6. "Adjudicator" means the person named in Appendix 2 of the Contract Agreement, appointed by agreement between the Procuring Entity and the Supplier to make a decision on or to settle any

3. Scope

Dispute between the Procuring Entity and the Supplier referred to him or her by the parties, pursuant to GCC Clause 43.1 (Adjudication).

1. "Information System," also called "the System," means all the Information Technologies, Materials, and other Goods to be supplied, installed, integrated, and made operational (exclusive of the Supplier's Equipment), together with the Services to be carried out by the Supplier under the Contract.
2. "Subsystem" means any subset of the System identified as such in the Contract that may be supplied, installed, tested, and commissioned individually before Commissioning of the entire System.
3. "Information Technologies" means all information processing and communications-related hardware, Software, supplies, and consumable items that the Supplier is required to supply and install under the Contract.
4. "Goods" means all equipment, machinery, furnishings, Materials, and other tangible items that the Supplier is required to supply or supply and install under the Contract, including, without limitation, the Information Technologies and Materials, but excluding the Supplier's Equipment.
5. "Services" means all technical, logistical, management, and any other Services to be provided by the Supplier under the Contract to supply, install, customize, integrate, and make operational the System. Such Services may include, but are not restricted to, activity management and quality assurance, design, development, customization, documentation, transportation, insurance, inspection, expediting, site preparation, installation, integration, training, data migration, Pre- commissioning, Commissioning, maintenance, and technical support.
6. "The Project Plan" means the document to be developed by the Supplier and approved by the Procuring Entity, pursuant to GCC Clause 19, based on the requirements of the Contract and the Preliminary Project Plan included in the Supplier's tender. The "Agreed Project Plan" is the version of the Project Plan approved by the Procuring Entity, in accordance with GCC Clause 19.2. Should the Project Plan conflict with the Contract in any way, the relevant provisions of the Contract, including any amendments, shall prevail.
7. "Software" means that part of the System which are instructions that cause information processing Sub systems to perform in a specific manner or execute specific operations.
8. "System Software" means Software that provides the operating and management instructions for the underlying hardware and other components, and is identified as such in Appendix 4 of the Contract Agreement and such other Software as the parties may agree in writing to be Systems Software. Such System Software includes, but is not restricted to, micro-code embedded in hardware (i.e., "firmware"), operating systems, communications, system and network management, and utility software.
9. "General-Purpose Software" means Software that supports general-purpose office and software development activities and is identified as such in Appendix 4 of the Contract Agreement and such other Software as the parties may agree in writing to be General-Purpose Software. Such

General- Purpose Software may include, but is not restricted to, word processing, spreadsheet, generic database management, and application development software.

10. "Application Software" means Software formulated to perform specific business or technical functions and interface with the business or technical users of the System and is identified as such in Appendix 4 of the Contract Agreement and such other Software as the parties may agree in writing to be Application Software.
11. "Standard Software" means Software identified as such in Appendix 4 of the Contract Agreement and such other Software as the parties may agree in writing to be Standard Software.
12. "Custom Software" means Software identified as such in Appendix 4 of the Contract Agreement and such other Software as the parties may agree in writing to be Custom Software.
13. "Source Code" means the database structures, dictionaries, definitions, program source files, and any other symbolic representations necessary for the compilation, execution, and subsequent maintenance of the Software (typically, but not exclusively, required for Custom Software).
14. "Materials" means all documentation in printed or printable form and all instructional and informational aides in any form (including audio, video, and text) and on any medium, provided to the Procuring Entity under the Contract.
15. "Standard Materials" means all Materials not specified as Custom Materials.
16. "Custom Materials" means Materials developed by the Supplier at the Procuring Entity's expense under the Contract and identified as such in Appendix 5 of the Contract Agreement and such other Materials as the parties may agree in writing to be Custom Materials. Custom Materials includes Materials created from Standard Materials.
17. "Intellectual Property Rights" means any and all copyright, moral rights, trademark, patent, and other intellectual and proprietary rights, title and interests worldwide, whether vested, contingent, or future, including without limitation all economic rights and all exclusive rights to reproduce, fix, adapt, modify, translate, create derivative works from, extractor re-utilize data from, manufacture, introduce into circulation, publish, distribute, sell, license, sub license, transfer, rent, lease, transmit or provide access electronically, broadcast, display, enter in to computer memory, or otherwise use any portion or copy, in whole or in part, in any form, directly or indirectly, or to authorize or assign others to do so.
18. "Supplier's Equipment" means all equipment, tools, apparatus, or things of every kind required in or for installation, completion and maintenance of the System that are to be provided by the Supplier, but excluding the Information Technologies, or other items forming part of the System.

4. Activities

1. "Delivery" means the transfer of the Goods from the Supplier to the Procuring Entity in accordance with the current edition Incoterms specified in the Contract.
2. "Installation" means that the System or a Subsystem as specified in the Contract is ready for Commissioning as provided in GCC Clause 26 (Installation).
3. "Pre-commissioning" means the testing, checking, and any other required activity that may be specified in the Technical Requirements that are to be carried out by the Supplier in preparation for Commissioning of the System as provided in GCC Clause 26 (Installation).
4. "Commissioning" means operation of the System or any Subsystem by the Supplier following Installation, which operation is to be carried out by the Supplier as provided in GCC Clause 27.1 (Commissioning), for the purpose of carrying out Operational Acceptance Test (s).
5. "Operational Acceptance Tests" means the tests specified in the Technical Requirements and Agreed Project Plan to be carried out to ascertain whether the System, or a specified Sub system, is able to attain the functional and performance requirements specified in the Technical

Requirements and Agreed Project Plan, in accordance with the provisions of GCC Clause 27.2 (Operational Acceptance Test).

6. "Operational Acceptance" means the acceptance by the Procuring Entity of the System (or any Subsystem(s) where the Contract provides for acceptance of the System in parts), in accordance with GCC Clause 27.3 (Operational Acceptance).

5. Place and Time

1. "Supplier's Country" is the country in which the Supplier is legally organized, as named in the Contract Agreement.
2. **Unless otherwise specified in the SCC** "Project Site (s)" means the place (s) in the Site Table in the Technical Requirements Section for the supply and installation of the System.
3. "Eligible Country" means the countries and territories eligible for participation in procurements.
4. "Day" means calendar day of the Gregorian Calendar.
5. "Week" means seven (7) consecutive Days, beginning the day of the week as is customary in Kenya.
6. "Month" means calendar month of the Gregorian Calendar.
7. "Year" means twelve (12) consecutive Months.
8. "Effective Date" means the date of fulfillment of all conditions specified in Article 3 (Effective Date for Determining Time for Achieving Operational Acceptance) of the Contract Agreement, for the purpose of determining the Delivery, Installation, and Operational Acceptance dates for the System or Sub system(s).
9. "Contract Period" is the time period during which this Contract governs the relations and obligations of the Procuring Entity and Supplier in relation to the System, as **unless otherwise specified in the SCC**, the Contract shall continue in force until the Information System and all the Services have been provided, unless the Contract is terminated earlier in accordance with the terms set out in the Contract.
10. "Defect Liability Period" (also referred to as the "Warranty Period") means the period of validity of the warranties given by the Supplier commencing at date of the Operational Acceptance Certificate of the System or Sub system(s), during which the Supplier is responsible for defects with respect to the System (or the relevant Sub-system[s]) as provided in GCC Clause 29 (Defect Liability).
11. "The Coverage Period" means the Days of the Week and the hours of those Days during which maintenance, operational, and/ or technical support services (if any) must be available.
12. "The Post-Warranty Services Period" means the number of years **defined in the SCC** (if any), following the expiration of the Warranty Period during which the Supplier may be obligated to provide Software licenses, maintenance, and/ or technical support services for the System, either under this Contractor under separate contract(s).

b) Contract Documents

- i. Subject to Article 1.2 (Order of Precedence) of the Contract Agreement, all documents forming part of the Contract (and all parts of these documents) are intended to be correlative, complementary, and mutually explanatory. The Contract shall be read as a whole.

c) Interpretation

- i. Governing Language
 1. All Contract Documents and related correspondence exchanged between Procuring Entity and Supplier shall

be written in **the English Language** of these tendering documents, and the Contract shall be construed and interpreted in accordance with that language.

2. If any of the Contract Documents or related correspondence are prepared in a language other than the English Language under GCC Clause 3.1.1 above, the translation of such documents into the **English** language shall prevail in matters of interpretation. The originating party, with respect to such documents shall bear the costs and risks of such translation.

ii. Singular and Plural The singular shall include the plural and the plural the singular, except where the context otherwise requires.

iii. **Headings** The headings and marginal notes in the GCC are included for ease of reference and shall neither constitute a part of the Contract nor affect its interpretation.

iv. **Persons**

Words importing persons or parties shall include firms, corporations, and government entities.

v. **Incoterms**

Unless inconsistent with any provision of the Contract, the meaning of any trade term and the rights and obligations of parties thereunder shall be as prescribed by the Incoterms.

Incoterms means international rules for interpreting trade terms published by the International Chamber of Commerce (latest edition), 38 Cours Albert 1^{er}, 75008 Paris, France.

vi. **Entire Agreement**

The Contract constitutes the entire agreement between the Procuring Entity and Supplier with respect to the subject matter of Contract and supersedes all communications, negotiations, and agreements (whether written or oral) of parties with respect to the subject matter of the Contract made prior to the date of Contract.

vii. **Amendment**

No amendment or other variation of the Contract shall be effective unless it is in writing, is dated, expressly refers to the Contract, and is signed by a duly authorized representative of each party to the Contract.

viii. **Independent Supplier**

The Supplier shall be an independent contractor performing the Contract. The Contract does not create any agency, partnership, joint venture, or other joint relationship between the parties to the Contract.

Subject to the provisions of the Contract, the Supplier shall be solely responsible for the manner in which the Contract is performed. All employees, representatives, or Sub contractors engaged by the Supplier in connection with the performance of the Contract shall be under the complete control of the Supplier and shall not be deemed to be employees of the Procuring Entity, and nothing contained in the Contractor in any sub contract awarded by the Supplier shall be construed to create any contractual relationship between any such employees, representatives, or Sub contractors and the Procuring Entity.

ix. **Joint Venture**

If the Supplier is a Joint Venture of two or more firms, all such firms shall be jointly and severally bound to the Procuring Entity for the fulfillment of the provisions of the Contract and shall designate one of such firms to act as a leader with authority to bind the Joint Venture. The composition or constitution of the Joint Venture shall not be altered without the prior consent of the Procuring Entity.

x. **Non-waiver**

1. Subject to GCC Clause 3.10.2 below, no relaxation, forbearance, delay, or indulgence by either party in

enforcing any of the terms and conditions of the Contractor the granting of time by either party to the other shall prejudice, affect, or restrict the rights of that party under the Contract, nor shall any waiver by either party of any breach of Contract operate as waiver of any subsequent or continuing breach of Contract.

2. Any waiver of a party's rights, powers, or remedies under the Contract must be in writing, must be dated and signed by an authorized representative of the party granting such waiver, and must specify the right and the extent to which it is being waived.

xi. Severability

If any provision or condition of the Contract is prohibited or rendered invalid or unenforceable, such prohibition, invalidity, or unenforceability shall not affect the validity or enforceability of any other provisions and conditions of the Contract.

xii. Country of Origin

“Origin” means the place where the Information Technologies, Materials, and other Goods for the System were produced or from which the Services are supplied. Goods are produced when, through manufacturing, processing, Software development, or substantial and major assembly or integration of components, a commercially recognized product results that is substantially different in basic characteristics or in purpose or utility from its components. The Origin of Goods and Services is distinct from the nationality of the Supplier and may be different.

d) Notices

- i. Unless otherwise stated in the Contract, all notices to be given under the Contract shall be in writing and shall be sent, pursuant to GCC Clause 4.3 below, by personal delivery, air mail post, special courier, facsimile, electronic mail, or Electronic Data Interchange (EDI), with the following provisions.
- ii. Any notice sent by facsimile, electronic mail, or EDI shall be confirmed within two (2) days after dispatch by notice sent by air mail post or special courier, except as otherwise specified in the Contract.
 1. Any notice sent by air mail post or special courier shall be deemed (in the absence of evidence of earlier receipt) to have been delivered ten (10) days after dispatch. In proving the fact of dispatch, it shall be sufficient to show that the envelope containing such notice was properly addressed, stamped, and conveyed to the postal authorities or courier service for transmission by air mail or special courier.
 2. Any notice delivered personally or sent by facsimile, electronic mail, or EDI shall be deemed to have been delivered on the date of its dispatch.
 3. Either party may change its postal, facsimile, electronic mail, or EDI addresses for receipt of such notices by ten (10) days' notice to the other party in writing.
- iii. Notices shall be deemed to include any approvals, consents, instructions, orders, certificates, information and other communication to be given under the Contract.
- iv. Pursuant to GCC Clause 18, notices from/to the Procuring Entity are normally given by, or addressed to, the Project Manager, while notices from/to the Supplier are normally given by, or addressed to, the Supplier's Representative, or in its absence its deputy if any. If there is no appointed Project Manager or Supplier's Representative (or deputy), or if their related authority is limited by the SCC for GCC Clauses 18.1 or 18.2.2, or for any other reason, the Procuring Entity or Supplier may give and receive notices at their fall back addresses. The address of the Project Manager and the fall back address of the Procuring Entity are as **specified in the SCC** or as subsequently established/ amended. The address of the Supplier's Representative and the fall back address of the Supplier are as specified in Appendix 1 of the Contract Agreement or as subsequently established/amended.

e) **Governing Law**

- i. The Contract shall be governed by and interpreted in accordance with the laws of Kenya.
- ii. Throughout the execution of the Contract, the Supplier shall comply with the import of goods and services prohibitions in Kenya when
 - a) As a matter of law or official regulations, Kenya prohibits commercial relations with that country; or
 - b) by an act of compliance with a decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations, Kenya prohibits any import of goods from that country or any payments to any country, person, or entity in that country.

c) **Fraud and Corruption**

- i. The Procuring Entity requires compliance with the laws of Kenya on Anti-Corruption Guidelines and its prevailing sanctions policies and procedures as set forth in its statutes.
- ii. The Procuring Entity requires the Suppliers to disclose any commissions or fees that may have been paid or are to be paid to agents or any other party with respect to the tendering process or execution of the Contract. The information disclosed must include at least the name and address of the agent or other party, the amount and currency, and the purpose of the commission, gratuity or fee.

B. SUBJECT MATTER OF CONTRACT

d) **Scope of the System**

- i. Unless otherwise expressly **limited in the SCC** or Technical Requirements, the Supplier's obligations cover the provision of Information Technologies, Materials and other Goods as well as the performance of all Services required for the design, development, and implementation (including procurement, quality assurance, assembly, associated site preparation, Delivery, Pre-commissioning, Installation, Testing, and Commissioning) of the System, in accordance with the plans, procedures, specifications, drawings, codes, and any other documents specified in the Contract and the Agreed Project Plan.
- ii. The Supplier shall, unless specifically excluded in the Contract, perform all such work and/or supply all such items and Materials not specifically mentioned in the Contract but that can be reasonably inferred from the Contract as being required for attaining Operational Acceptance of the System as if such work and/or items and Materials were expressly mentioned in the Contract.
- iii. The Supplier's obligations (if any) to provide Goods and Services as implied by the Recurrent Cost tables of the Supplier's tender, such as consumables, spare parts, and technical services (e.g., maintenance, technical assistance, and operational support), areas **specified in the SCC**, including the relevant terms, characteristics, and timings.

e) **Time for Commencement and Operational Acceptance**

- i. The Supplier shall commence work on the System within the period **specified in the SCC**, and without prejudice to GCC Clause 28.2, the Supplier shall thereafter proceed with the System in accordance with the time schedule specified in the Implementation Schedule and any refinements made in the Agreed Project Plan.
- ii. The Supplier shall achieve Operational Acceptance of the System (or Subsystem(s) where a separate time for Operational Acceptance of such Sub system (s) is specified in the Contract) in accordance with the time schedule specified in the Implementation Schedule and any refinements made in the Agreed Project Plan, or within such extended time to which the Supplier shall be entitled under GCC Clause 40 (Extension of Time for Achieving Operational Acceptance).

f) **Supplier's Responsibilities**

- i. The Supplier shall conduct all activities with due care and diligence, in accordance with the Contract and with the skill and care expected of a competent provider of information technologies, information systems,

support, maintenance, training, and other related services, or in accordance with best industry practices. In particular, the Supplier shall provide and employ only technical personnel who are skilled and experienced in the irrelative callings and supervisory staff who are competent to adequately supervise the work at hand.

- ii. The Supplier confirms that it has entered into this Contract on the basis of a proper examination of the data relating to the System provided by the Procuring Entity and on the basis of information that the Supplier could have obtained from a visual inspection of the site (if access to the site was available) and of other data readily available to the Supplier relating to the System as at the date twenty-eight (28) days prior to tender submission. The Supplier acknowledges that any failure to acquaint itself with all such data and information shall not relieve its responsibility for properly estimating the difficulty or cost of successfully performing the Contract.
- iii. The Supplier shall be responsible for timely provision of all resources, information, and decision making under its control that are necessary to reach a mutually Agreed Project Plan (pursuant to GCC Clause 19.2) within the time schedule specified in the Implementation Schedule. Failure to provide such resources, information, and decision-making may constitute grounds for termination pursuant to GCC Clause 41.2.
- iv. The Supplier shall acquire in its name all permits, approvals, and/or licenses from all local, state, or national government authorities or public service undertakings in Kenya that are necessary for the performance of the Contract, including, without limitation, visas for the Supplier's and Subcontractor's personnel and entry permits for all imported Supplier's Equipment. The Supplier shall acquire all other permits, approvals, and/or licenses that are not the responsibility of the Procuring Entity under GCC Clause 10.4 and that are necessary for the performance of the Contract.
- v. The Supplier shall comply with all laws in force in Kenya. The laws will include all national, provincial, municipal, or other laws that affect the performance of the Contract and are binding upon the Supplier. The Supplier shall indemnify and hold harmless the Procuring Entity from and against any and all liabilities, damages, claims, fines, penalties, and expenses of whatever nature arising or resulting from the violation of such laws by the Supplier or its personnel, including the Sub contractors and their personnel, but without prejudice to GCC Clause 10.1. The Supplier shall not indemnify the Procuring Entity to the extent that such liability, damage, claims, fines, penalties, and expenses were caused or contributed to by a fault of the Procuring Entity.
- vi. The Supplier shall, in all dealings with its labor and the labor of its Subcontractors currently employed on or connected with the Contract, pay due regard to all recognized festivals, official holidays, religious or other customs, and all local laws and regulations pertaining to the employment of labor.
- vii. Any Information Technologies or other Goods and Services that will be incorporated in or be required for the System and other supplies shall have their Origin, as defined in GCC Clause 3.12, in a country that shall be an Eligible Country, as defined in GCC Clause 1.1 (e) (iv).
- viii. Pursuant to paragraph 2.2e. of Appendix B to the General Conditions the Supplier shall permit and shall cause its subcontractors and sub-consultants to permit, the PPRA and/or persons appointed by the PPRA to inspect the Site and/or the accounts and records relating to the procurement process, selection and/or contract execution, and to have such accounts and records audited by auditors appointed by the PPRA if requested by the PPRA. The Supplier's and its Sub contractors' and sub-consultants' attention is drawn to Sub-Clause 6.1 which provides, inter alia, that acts intended to materially impede the exercise of the PPRA's inspection and audit rights constitute a prohibited practice subject to contract termination (as well as to a determination of ineligibility pursuant to the PPRA's prevailing sanctions procedures).
- ix. The Supplier shall conform to the sustainable procurement contractual provisions, if and as **specified in the SCC**.
- x. **Unless otherwise specified in the SCC** the Supplier shall have no other Supplier responsibilities.

g) Procuring Entity's Responsibilities

- i. The Procuring Entity shall ensure the accuracy of all information and/or data to be supplied by the Procuring Entity to the Supplier, except when otherwise expressly stated in the Contract.

- ii. The Procuring Entity shall be responsible for timely provision of all resources, information, and decision making under its control that are necessary to reach an Agreed Project Plan (pursuant to GCC Clause 19.2) within the time schedule specified in the Implementation Schedule. Failure to provide such resources, information, and decision making may constitute grounds for Termination pursuant to GCC Clause 41.3.1(b).
- iii. The Procuring Entity shall be responsible for acquiring and providing legal and physical possession of the site and access to it, and for providing possession of and access to all other are as reasonably required for the proper execution of the Contract.
- iv. If requested by the Supplier, the Procuring Entity shall use its best endeavors to assist the Supplier in obtaining in a timely and expeditious manner all permits, approvals, and/or licenses necessary for the execution of the Contract from all local, state, or national government authorities or public service undertakings that such authorities or under takings require the Supplier or Sub contractors or the personnel of the Supplier or Sub contractors, as the case may be, to obtain.
- v. In such cases where the responsibilities of specifying and acquiring or upgrading telecommunications and/or electric power services falls to the Supplier, as specified in the Technical Requirements, SCC, Agreed Project Plan, or other parts of the Contract, the Procuring Entity shall use its best endeavors to assist the Supplier in obtaining such services in a timely and expeditious manner.
- vi. The Procuring Entity shall be responsible for timely provision of all resources, access, and information necessary for the Installation and Operational Acceptance of the System (including, but not limited to, any required telecommunications or electric power services), as identified in the Agreed Project Plan, except where provision of such items is explicitly identified in the Contract as being the responsibility of the Supplier. Delay by the Procuring Entity may result in an appropriate extension of the Time for Operational Acceptance, at the Supplier's discretion.
- vii. Unless otherwise specified in the Contractor agreed upon by the Procuring Entity and the Supplier, the Procuring Entity shall provide sufficient, properly qualified operating and technical personnel, as required by the Supplier to properly carry out Delivery, Pre-commissioning, Installation, Commissioning, and Operational Acceptance, at or before the time specified in the Implementation Schedule and the Agreed Project Plan.
- viii. The Procuring Entity will designate appropriate staff for the training courses to be given by the Supplier and shall make all appropriate logistical arrangements for such training as specified in the Technical Requirements, SCC, the Agreed Project Plan, or other parts of the Contract.
- ix. The Procuring Entity assumes primary responsibility for the Operational Acceptance Test (s) for the System, in accordance with GCC Clause 27.2, and shall be responsible for the continued operation of the System after Operational Acceptance. However, this shall not limit in anyway the Supplier's responsibilities after the date of Operational Acceptance otherwise specified in the Contract.
- x. The Procuring Entity is responsible for performing and safely storing timely and regular backups of its data and Software in accordance with accepted data management principles, except where such responsibility is clearly assigned to the Supplier elsewhere in the Contract.
- xi. All costs and expenses involved in the performance of the obligations under this GCC Clause 10 shall be the responsibility of the Procuring Entity, save those to be incurred by the Supplier with respect to the performance of the Operational Acceptance Test (s), in accordance with GCC Clause 27.2.
- xii. **Unless otherwise specified in the SCC** the Procuring Entity shall have no other Procuring Entity responsibilities.

C. Payment – THIS WILL BE AGREED WITH THE WINNING BIDDER

h) Contract Price

- i. The Contract Price shall be as specified in Article 2 (Contract Price and Terms of Payment) of the Contract

Agreement.

- ii. Unless an adjustment clause is **provided for in the SCC**, the Contract Price shall be a firm lump sum not subject to any alteration, except in the event of a Change in the System pursuant to GCC Clause 39 or to other clauses in the Contract;
- iii. The Supplier shall be deemed to have satisfied itself as to the correctness and sufficiency of the Contract Price, which shall, except as otherwise provided for in the Contract, cover all its obligations under the Contract.
- iv. Where the contract price is different from the corrected tender price, in order to ensure the contractor is not paid less or more relative to the contract price (*which would be the tender price*), payment valuation certificates and variation orders on omissions and additions valued based on rates in the Bill of Quantities or schedule of rates in the Tender, will be adjusted by a plus or minus percentage. The percentage already worked out during tender evaluation is worked out as follows: $(\text{corrected tender price} - \text{tender price}) / \text{tender price} \times 100$.

i) **Terms of Payment**

- i. The Supplier's request for payment shall be made to the Procuring Entity in writing, accompanied by an invoice describing, as appropriate, the System or Subsystem(s), Delivered, Pre-commissioned, Installed, and Operationally Accepted, and by documents submitted pursuant to GCC Clause 22.5 and upon fulfillment of other obligations stipulated in the Contract. The Contract Price shall be paid as **specified in the SCC**.
- ii. No payment made by the Procuring Entity herein shall be deemed to constitute acceptance by the Procuring Entity of the System or any Sub system (s).
- iii. Payments shall be made promptly by the Procuring Entity, but in no case later than (sixty (60) days after submission of a valid invoice and upon satisfactorily performance of the contractual obligations by the Supplier. In the event that the Procuring Entity fails to make any payment by its respective due date or within the period set forth in the Contract, the Procuring Entity shall pay to the Supplier interest on the amount of such delayed payment at the rate (s) **specified in the SCC** for the period of delay until payment has been made in full, whether before or after judgment or arbitration award.
- iv. Payments shall be made in the currency (ies) specified in the Contract Agreement, pursuant to GCC Clause 11. For Goods and Services supplied locally, payments shall be made **as specified in the SCC**.
- v. **Unless otherwise specified in the SCC**, payment of the foreign currency portion of the Contract Price for Goods supplied from outside Kenya shall be made to the Supplier through an irrevocable Form of credit opened by an authorized bank in the Supplier's Country and will be payable on presentation of the appropriate documents. It is agreed that the Form of credit will be subject to Article 10 of the latest revision of *Uniform Customs and Practice for Documentary Credits*, published by the International Chamber of Commerce, Paris.

j) **Securities**

i. **Issuance of Securities**

The Supplier shall provide the securities specified below in favor of the Procuring Entity at the times and in the amount, manner, and form specified below.

ii. **Advance Payment Security**

- 1. Unless otherwise specified in the SCC, the Supplier shall provide within twenty-eight (28) days of the notification of Contract award an Advance Payment Security in the amount and currency of the Advance Payment specified in SCC for GCC Clause 12.1 above and valid until the System is Operationally Accepted.
- 2. The security shall be in the form provided in the tendering documents or in another form acceptable to the Procuring Entity. The amount of the security shall be reduced in proportion to the value of the System

executed by and paid to the Supplier from time to time and shall automatically become null and void when the full amount of the advance payment has been recovered by the Procuring Entity. **Unless otherwise specified in the SCC**, the reduction in value and expiration of the Advance Payment Security are calculated as follows:

$P*a/(100-a)$, where “P” is the sum of all payments effected so far to the Supplier (excluding the Advance Payment), and “a” is the Advance Payment expressed as a percentage of the Contract Price pursuant to the SCC for GCC Clause 12.1.

The security shall be returned to the Supplier immediately after its expiration.

iii. Performance Security

1. The Supplier shall, within twenty-eight (28) days of the notification of Contract award, provide a security for the due performance of the Contract in the amount and currency **specified in the SCC**.
2. The security shall be a bank guarantee in the form provided in the Sample Contractual Forms Section of the tendering documents, or it shall be in another form acceptable to the Procuring Entity.
3. The security shall automatically become null and void once all the obligations of the Supplier under the Contract have been fulfilled, including, but not limited to, any obligations during the Warranty Period and any extensions to the period. The security shall be returned to the Supplier no later than twenty-eight (28) days after its expiration.
4. Upon Operational Acceptance of the entire System, the security shall be reduced to the amount **specified in the SCC**, on the date of the Operational Acceptance, so that the reduced security would only cover the remaining warranty obligations of the Supplier.

k) **Taxes and Duties**

- i. For Goods or Services supplied from outside and inside Kenya, the Supplier shall be entirely responsible for all taxes, stamp duties, license fees, and other such levies imposed outside Kenya and inside Kenya, and these duties or taxes shall be made part of the Contract Price in Article 2 of the Contract Agreement and the Price Schedule it refers to, in which case the duties and taxes will be the Supplier's responsibility.
- ii. For Goods or Services supplied locally, the Supplier shall be entirely responsible for all taxes, duties, license fees, etc., incurred until delivery of the contracted Goods or Services to the Procuring Entity. The only exception are taxes or duties, such as value-added or sales tax or stamp duty as apply to, or are clearly identifiable, on the invoices and provided they apply in Kenya, and only if these taxes, levies and/or duties are also excluded from the Contract Price in Article 2 of the Contract Agreement and the Price Schedule it refers to.
- iii. If any tax exemptions, reductions, allowances, or privileges may be available to the Supplier in Kenya, the Procuring Entity shall use its best efforts to enable the Supplier to benefit from any such tax savings to the maximum allowable extent.
- iv. For the purpose of the Contract, it is agreed that the Contract Price specified in Article 2 (Contract Price and Terms of Payment) of the Contract Agreement is based on the taxes, duties, levies, and charges prevailing at the date twenty-eight (28) days prior to the date of tender submission in Kenya (also called “Tax” in this GCC Clause 14.4). If any Tax rates are increased or decreased, a new Tax is introduced, an existing Tax is abolished, or any change in interpretation or application of any Tax occurs in the course of the performance of the Contract, which was or will be assessed on the Supplier, its Sub contractors, or their employees in connection with performance of the Contract, an equitable adjustment to the Contract Price shall be made to fully take into account any such change by addition to or reduction from the Contract Price, as the case may be.

D. Intellectual Property

l) Copyright

- i. The Intellectual Property Rights in all Standard Software and Standard Materials shall remain vested in the owner of such rights.
- ii. The Procuring Entity agrees to restrict use, copying, or duplication of the Standard Software and Standard Materials in accordance with GCC Clause 16, except that additional copies of Standard Materials may be made by the Procuring Entity for use within the scope of the project of which the System is a part, in the event that the Supplier does not deliver copies within thirty (30) days from receipt of a request for such Standard Materials.
- iii. The Procuring Entity's contractual rights to use the Standard Software or elements of the Standard Software may not be assigned, licensed, or otherwise transferred voluntarily except in accordance with the relevant license agreement or **unless otherwise specified in the SCC** to a legally constituted successor organization (e.g., a reorganization of a public entity formally authorized by the government or through a merger or acquisition of a private entity).
- iv. **Unless otherwise specified in the SCC**, the Intellectual Property Rights in all Custom Software and Custom Materials specified in Appendices 4 and 5 of the Contract Agreement (if any) shall, at the date of this Contractor on creation of the rights (if later than the date of this Contract), vest in the Procuring Entity. The Supplier shall do and execute or arrange for the doing and executing of each necessary act, document, and thing that the Procuring Entity may consider necessary or desirable to perfect the right, title, and interest of the Procuring Entity in and to those rights. In respect of such Custom Software and Custom Materials, the Supplier shall ensure that the holder of an or a right in such an item does not assert it, and the Supplier shall, if requested to do so by the Procuring Entity and where permitted by applicable law, ensure that the holder of such a moral right waives it.
- v. **Unless otherwise specified in the SCC**, escrow arrangements shall NOT be required.

m) Software License Agreements

- i. Except to the extent that the Intellectual Property Rights in the Software vest in the Procuring Entity, the Supplier hereby grants to the Procuring Entity license to access and use the Software, including all inventions, designs, and marks embodied in the Software.

Such license to access and use the Software shall:

1. be:
 - a) non-exclusive;
 - b) fully paid up and irrevocable (except that it shall terminate if the Contract terminates under GCC Clauses 41.1 or 41.3);
 - c) **unless otherwise specified in the SCC** valid throughout Kenya;
 - d) **unless otherwise specified in the SCC subject** to NO additional restrictions.

1. Permit the Software to be:

1. used or copied for use on or with the computer(s) for which it was acquired (if specified in the Technical Requirements and/or the Supplier's tender), plus a backup computer(s) of the same or similar capacity, if the primary is (are) in operative, and during a reasonable transitional period when use is being transferred between primary and back up;
2. used or copied for use on or transferred to a replacement computer (s), (and use on the original and replacement computer(s) may be simultaneous during a reasonable transitional period) provided that, if the Technical Requirements and/or the Supplier's tender specifies a class of computer to which the license is restricted, the replacement computer (s) is (are) within that class;

3. if the nature of the System is such as to permit such access, accessed from other computers connected to the primary and/or back up computer (s) by means of a local or wide-area network or similar arrangement, and used on or copied for use on those other computers to the extent necessary to that access;
4. reproduced for safe keeping or back up purposes;
5. customized, adapted, or combined with other computer software for use by the Procuring Entity, provided that derivative software incorporating any substantial part of the delivered, restricted Software shall be subject to same restrictions as a reset forth in this Contract;
6. **unless otherwise specified in the SCC**, disclosed to, and reproduced for use by, support service suppliers and their sub-contractors, (and the Procuring Entity may sub-license such persons to use and copy for use the Software) to the extent reasonably necessary to the performance of their support service contracts, subject to the same restrictions as a reset forth in this Contract; and
7. **unless otherwise specified in the SCC** disclosed to, and reproduced for use by, NO other parties.

i. The Supplier has the right to audit the Standard Software to verify compliance with the above license agreements.

Unless otherwise specified in the SCC, the Procuring Entity will make available to the Supplier, within seven (7) days of a written request, accurate and up-to-date records of the number and location of copies, the number of authorized users, or any other relevant data required to demonstrate use of the Standard Software as per the license agreement. If and only if, expressly agreed in writing between the Procuring Entity and the Supplier, Procuring Entity will allow, under a pre-specified agreed procedure, the execution of embedded software functions under Supplier's control, and unencumbered transmission of resulting information on software usage.

b) Confidential Information

- i. **Unless otherwise specified in the SCC**, the "Receiving Party" (either the Procuring Entity or the Supplier) shall keep confidential and shall not, without the written consent of the other party to this Contract ("the Disclosing Party"), divulge to any third party any documents, data, or other information of a confidential nature ("Confidential Information") connected with this Contract, and furnished directly or indirectly by the Disclosing Party prior to or during performance, or following termination, of this Contract.
- ii. For the purposes of GCC Clause 17.1, the Supplier is also deemed to be the Receiving Party of Confidential Information generated by the Supplier itself in the course of the performance of its obligations under the Contract and relating to the businesses, finances, suppliers, employees, or other contacts of the Procuring Entity or the Procuring Entity's use of the System.
- iii. Notwithstanding GCC Clauses 17.1 and 17.2:
 1. the Supplier may furnish to its Subcontractor Confidential Information of the Procuring Entity to the extent reasonably required for the Subcontractor to perform its work under the Contract; and
 2. the Procuring Entity may furnish Confidential Information of the Supplier: (i) to its support service suppliers and their subcontractors to the extent reasonably required for them to perform their work under their support service contracts; and (ii) to its affiliates and subsidiaries, in which event the Receiving Party shall ensure that the person to whom it furnishes Confidential Information of the Disclosing Party is aware of and a tenderer by the Receiving Party's obligations under this GCC Clause 17 as if that person were party to the Contract in place of the Receiving Party.
- iv. The Procuring Entity shall not, without the Supplier's prior written consent, use any Confidential Information received from the Supplier for any purpose other than the operation, maintenance and further development of the System. Similarly, the Supplier shall not, without the Procuring Entity's prior written consent, use any Confidential Information received from the Procuring Entity for any purpose other than those that are required for the performance of the Contract.
- v. The obligation of a party under GCC Clauses 17.1 through 17.4 above, however, shall not apply to that information which:

1. Now or hereafter enters the public domain through no fault of the Receiving Party;
 2. can be proven to have been possessed by the Receiving Party at the time of disclosure and that was not previously obtained, directly or indirectly, from the Disclosing Party;
 3. otherwise lawfully becomes available to the Receiving Party from a third party that has no obligation of confidentiality.
- vi. The above provisions of this GCC Clause17 shall not in any way modify any undertaking of confidentiality given by either of the parties to this Contract prior to the date of the Contract in respect of the System or any part thereof.
- vii. **Unless otherwise specified in the SCC**, the provisions of this GCC Clause17 shall survive the termination, for whatever reason, of the Contract for three (3) years.

E. Supply, Installation, Testing, Commissioning, and Acceptance of the System

c) Representatives

i. Project Manager

If the Project Manager is not named in the Contract, then within fourteen (14) days of the Effective Date, the Procuring Entity shall appoint and notify the Supplier in writing of the name of the Project Manager. The Procuring Entity may from time to time appoint some other person as the Project Manager in place of the person previously so appointed and shall give a notice of the name of such other person to the Supplier without delay. No such appointment shall be made at such a time or in such a manner as to impede the progress of work on the System. Such appointment shall take effect only upon receipt of such notice by the Supplier. **Unless otherwise specified in the SCC** (if any), the Project Manager shall have the authority to represent the Procuring Entity on all day-to-day matters relating to the System or arising from the Contract, and shall normally be the person giving or receiving notices on behalf of the Procuring Entity pursuant to GCC Clause4.

ii. Supplier's Representative

1. If the Supplier's Representative is not named in the Contract, then with in fourteen (14) days of the Effective Date, the Supplier shall appoint the Supplier's Representative and shall request the Procuring Entity in writing to approve the person so appointed. The request must be accompanied by a detailed curriculum vitae for the nominee, as well as a description of any other System or non-System responsibilities the nominee would retain while performing the duties of the Supplier's Representative. If the Procuring Entity does not object to the appointment within fourteen (14) days, the Supplier's Representative shall be deemed to have been approved. If the Procuring Entity objects to the appointment within fourteen (14) days giving the reason therefor, then the Supplier shall appoint a replacement within fourteen (14) days of such objection in accordance with this GCC Clause 18.2.1.
2. **Unless otherwise specified in the SCC** (if any), the Supplier's Representative shall have the authority to represent the Supplier on all day-to-day matters relating to the System or arising from the Contract, and shall normally be the person giving or receiving notices on behalf of the Supplier pursuant to GCC Clause 4.
3. The Supplier shall not revoke the appointment of the Supplier's Representative without the Procuring Entity's prior written consent, which shall not be unreasonably withheld. If the Procuring Entity consents to such an action, the Supplier shall appoint another person of equal or superior qualifications as the Supplier's Representative, pursuant to the procedure set out in GCC Clause 18.2.1.
4. The Supplier's Representative and staff are obliged to work closely with the Procuring Entity's Project Manager and staff, act within their own authority, and a tenderer by directives issued by the Procuring Entity that are consistent with the terms of the Contract. The Supplier's Representative is responsible for managing the activities of its personnel and any subcontracted personnel.
5. The Supplier's Representative may, subject to the approval of the Procuring Entity (which shall not be

unreasonably withheld), at any time delegate to any person any of the powers, functions, and authorities vested in him or her. Any such delegation may be revoked at any time. Any such delegation or revocation shall be subject to a prior notice signed by the Supplier's Representative and shall specify the powers, functions, and authorities there by delegated or revoked. No such delegation or revocation shall take effect unless and until the notice of it has been delivered.

6. Any act or exercise by any person of powers, functions and authorities so delegated to him or her in accordance with GCC Clause 18.2.5 shall be deemed to be an act or exercise by the Supplier's Representative.

ii. **Objections and Removals**

1. The Procuring Entity may by notice to the Supplier object to any representative or person employed by the Supplier in the execution of the Contract who, in the reasonable opinion of the Procuring Entity, may have behaved inappropriately, be incompetent, or be negligent. The Procuring Entity shall provide evidence of the same, where upon the Supplier shall remove such person from work on the System.

2. If any representative or person employed by the Supplier is removed in accordance with GCC Clause 18.3.1, the Supplier shall, where required, promptly appoint a replacement.

d) **Project Plan**

i. In close cooperation with the Procuring Entity and based on the Preliminary Project Plan included in the Supplier's tender, the Supplier shall develop a Project Plan encompassing the activities specified in the Contract. The contents of the Project Plan shall be as **specified in the SCC** and/ or Technical Requirements.

ii. **Unless otherwise specified in the SCC**, within thirty (30) days from the Effective Date of the Contract, the Supplier shall present a Project Plan to the Procuring Entity. The Procuring Entity shall, within fourteen (14) days of receipt of the Project Plan, notify the Supplier of any respects in which it considers that the Project Plan does not adequately ensure that the proposed program of work, proposed methods, and/or proposed Information Technologies will satisfy the Technical Requirements and/or the SCC (in this Clause 19.2 called "non-conformities" below). The Supplier shall, within five (5) days of receipt of such notification, correct the Project Plan and resubmit to the Procuring Entity. The Procuring Entity shall, within five (5) days of resubmission of the Project Plan, notify the Supplier of any remaining non-conformities. This procedure shall be repeated as necessary until the Project Plan is free from non-conformities. When the Project Plan is free from non-conformities, the Procuring Entity shall provide confirmation in writing to the Supplier. This approved Project Plan ("the Agreed Project Plan") shall be contractually binding on the Procuring Entity and the Supplier.

iii. If required, the impact on the Implementation Schedule of modifications agreed during finalization of the Agreed Project Plan shall be incorporated in the Contract by amendment, in accordance with GCC Clauses 39 and 40.

iv. The Supplier shall undertake to supply, install, test, and commission the System in accordance with the Agreed Project Plan and the Contract.

v. **Unless otherwise specified in the SCC**, the Supplier shall submit to the Procuring Entity Monthly Progress Reports summarizing:

a) Results accomplished during the prior period;

b) cumulative deviations to date from schedule of progress milestones as specified in the Agreed Project Plan;

c) corrective actions to be taken to return to planned schedule of progress; proposed revisions to planned schedule;

d) other issues and outstanding problems; proposed actions to be taken;

e) resources that the Supplier expects to be provided by the Procuring Entity and/ or actions to be

taken by the Procuring Entity in the next reporting period;

f) other issues or potential problems the Supplier foresees that could impact on project progress and/or effectiveness.

vi. The Supplier shall submit to the Procuring Entity other (periodic) reports **as specified in the SCC.**

e) **Sub-contracting**

- i. Appendix 3 (List of Approved Subcontractors) to the Contract Agreement specifies critical items of supply or services and a list of Subcontractors for each item that are considered acceptable by the Procuring Entity. If no Subcontractors are listed for an item, the Supplier shall prepare a list of Subcontractors it considers qualified and wishes to be added to the list for such items. The Supplier may from time to time propose additions to or deletions from any such list. The Supplier shall submit any such list or any modification to the list to the Procuring Entity for its approval insufficient time so as not to impede the progress of work on the System. The Procuring Entity shall not withhold such approval unreasonably. Such approval by the Procuring Entity of a Subcontractor (s) shall not relieve the Supplier from any of its obligations, duties, or responsibilities under the Contract.
- ii. The Supplier may, at its discretion, select and employ Subcontractors for such critical items from those Subcontractors listed pursuant to GCC Clause 20.1. If the Supplier wishes to employ a Subcontractor not so listed, or subcontract an item not so listed, it must seek the Procuring Entity's prior approval under GCC Clause 20.3.
- iii. For items for which pre-approved Subcontractor lists have not been specified in Appendix 3 to the Contract Agreement, the Supplier may employ such Subcontractors as it may select, provided: (i) the Supplier notifies the Procuring Entity in writing at least twenty-eight (28) days prior to the proposed mobilization date for such Subcontractor; and (ii) by the end of this period either the Procuring Entity has granted its approval in writing or fails to respond. The Supplier shall not engage any Subcontractor to which the Procuring Entity has objected in writing prior to the end of the notice period. The absence of a written objection by the Procuring Entity during the above specified period shall constitute formal acceptance of the proposed Subcontractor. Except to the extent that it permits the deemed approval of the Procuring Entity of Subcontractors not listed in the Contract Agreement, nothing in this Clause, however, shall limit the rights and obligations of either the Procuring Entity or Supplier as they are specified in GCC Clauses 20.1 and 20.2, or in Appendix 3 of the Contract Agreement.

f) **Design and Engineering**

i. Technical Specifications and Drawings

21.1.1 The Supplier shall execute the basic and detailed design and the implementation activities necessary for successful installation of the System in compliance with the provisions of the Contractor, where not so specified, in accordance with good industry practice.

The Supplier shall be responsible for any discrepancies, errors or omissions in the specifications, drawings, and other technical documents that it has prepared, whether such specifications, drawings, and other documents have been approved by the Project Manager or not, provided that such discrepancies, errors, or omissions are not because of inaccurate information furnished in writing to the Supplier by or on behalf of the Procuring Entity.

1. The Supplier shall be entitled to disclaim responsibility for any design, data, drawing, specification, or other document, or any modification of such design, drawings, specification, or other documents provided or designated by or on behalf of the Procuring Entity, by giving a notice of such disclaimer to the Project Manager.

ii. Codes and Standards

Wherever references are made in the Contract to codes and standards in accordance with which the Contract shall be executed, the edition or the revised version of such codes and standards current at the date twenty-eight (28) days prior to date of tender submission shall apply. During Contract execution, any changes in such codes and standards shall be applied after approval by the Procuring Entity and shall be

treated in accordance with GCC Clause 39.3.

iii. Approval/ Review of Controlling Technical Documents by the Project Manager

1. **Unless otherwise specified in the SCC**, there will NO Controlling Technical Documents required. However, **if the SCC specifies** Controlling Technical Documents, the Supplier shall prepare and furnish such documents for the Project Manager's approval or review.

Any part of the System covered by or related to the documents to be approved by the Project Manager shall be executed only after the Project Manager's approval of these documents.

GCC Clauses 21.3.2 through 21.3.7 shall apply to those documents requiring the Project Manager's approval, but not to those furnished to the Project Manager for its review only.

2. Within fourteen (14) days after receipt by the Project Manager of any document requiring the Project Manager's approval in accordance with GCC Clause 21.3.1, the Project Manager shall either return one copy of the document to the Supplier with its approval endorsed on the document or shall notify the Supplier in writing of its disapproval of the document and the reasons for disapproval and the modifications that the Project Manager proposes. If the Project Manager fails to take such action within the fourteen (14) days, then the document shall be deemed to have been approved by the Project Manager.
3. The Project Manager shall not disapprove any document except on the grounds that the document does not comply with some specified provision of the Contract or that it is contrary to good industry practice.
4. If the Project Manager disapproves the document, the Supplier shall modify the document and resubmit it for the Project Manager's approval in accordance with GCC Clause 21.3.2. If the Project Manager approves the document subject to modification(s), the Supplier shall make the required modification(s), and the document shall then be deemed to have been approved, subject to GCC Clause 21.3.5. The procedure set out in GCC Clauses 21.3.2 through 21.3.4 shall be repeated, as appropriate, until the Project Manager approves such documents.
5. If any dispute occurs between the Procuring Entity and the Supplier in connection with or arising out of the disapproval by the Project Manager of any document and/ or any modification (s) to a document that cannot be settled between the parties within a reasonable period, then, in case the Contract Agreement includes and names an Adjudicator, such dispute may be referred to the Adjudicator for determination in accordance with GCC Clause 43.1 (Adjudication). If such dispute is referred to an Adjudicator, the Project Manager shall give instructions as to whether and if so, how, performance of the Contract is to proceed. The Supplier shall proceed with the Contract in accordance with the Project Manager's instructions, provided that if the Adjudicator upholds the Supplier's view on the dispute and if the Procuring Entity has not given notice under GCC Clause 43.1.2, then the Supplier shall be reimbursed by the Procuring Entity for any additional costs incurred by reason of such instructions and shall be relieved of such responsibility or liability in connection with the dispute and the execution of the instructions as the Adjudicator shall decide, and the Time for Achieving Operational Acceptance shall be extended accordingly.
6. The Project Manager's approval, with or without modification of the document furnished by the Supplier, shall not relieve the Supplier of any responsibility or liability imposed upon it by any provisions of the Contract except to the extent that any subsequent failure results from modifications required by the Project Manager or inaccurate information furnished in writing to the Supplier by or on behalf of the Procuring Entity.
7. The Supplier shall not depart from any approved document unless the Supplier has first submitted to the Project Manager an amended document and obtained the Project Manager's approval of the document, pursuant to the provisions of this GCC Clause 21.3. If the Project Manager requests any change in any already approved document and/or in any document based on such an approved document, the provisions of GCC Clause 39 (Changes to the System) shall apply to such request.

g) **Procurement, Delivery, and Transport**

- i. Subject to related Procuring Entity's responsibilities pursuant to GCC Clauses 10 and 14, the Supplier shall manufacture or procure and transport all the Information Technologies, Materials, and other Goods in an expeditious and orderly manner to the Project Site.

- ii. Delivery of the Information Technologies, Materials, and other Goods shall be made by the Supplier in accordance with the Technical Requirements.
- iii. Early or partial deliveries require the explicit written consent of the Procuring Entity; which consent shall not be unreasonably withheld.
- iv. Packaging and Transportation
 - a) The Supplier shall provide such packing of the Goods as is required to prevent their damage or deterioration during shipment. The packing, marking, and documentation within and outside the packages shall comply strictly with the Procuring Entity's instructions to the Supplier.
 - b) The Supplier will bear responsibility for and cost of transport to the Project Sites in accordance with the terms and conditions used in the specification of prices in the Price Schedules, including the terms and conditions of the associated Inco terms.
 - c) **Unless otherwise specified in the SCC**, the Supplier shall be free to use transportation through carriers registered in any eligible country and to obtain insurance from any eligible source country.

Unless otherwise specified in the SCC, the Supplier will provide the Procuring Entity with shipping and other documents, as specified below:

1. For Goods supplied from outside Kenya:

Upon shipment, the Supplier shall notify the Procuring Entity and the insurance company contracted by the Supplier to provide cargo insurance by cable, facsimile, electronic mail, or EDI with the full details of the shipment. The Supplier shall promptly send the following documents to the Procuring Entity by mail or courier, as appropriate, with a copy to the cargo insurance company:

- a) Two copies of the Supplier's invoice showing the description of the Goods, quantity, unit price, and total amount;
- b) usual transportation documents;
- c) insurance certificate;
- d) certificate (s) of origin; and
- e) estimated time and point of arrival in Kenya and at the site.

1. For Goods supplied locally (i.e., from within Kenya):

Upon shipment, the Supplier shall notify the Procuring Entity by cable, facsimile, electronic mail, or EDI with the full details of the shipment. The Supplier shall promptly send the following documents to the Procuring Entity by mail or courier, as appropriate:

- a) Two copies of the Supplier's invoice showing the Goods' description, quantity, unit price, and total amount;
- b) Delivery note, railway receipt, or truck receipt;
- c) certificate of insurance;
- d) certificate (s) of origin; and
- e) estimated time of arrival at the site.

i. Customs Clearance

- a) The Procuring Entity will bear responsibility for, and cost of, customs clearance into Kenya in accordance with the particular Incoterm(s) used for Goods supplied from outside Kenya in the Price Schedules referred to by Article 2 of the Contract Agreement.
- b) At the request of the Procuring Entity, the Supplier will make available a representative or agent during the process of customs clearance in Kenya for goods supplied from outside Kenya. In the event of delays in customs clearance that are not the fault of the Supplier:
 - i. the Supplier shall be entitled to an extension in the Time for Achieving Operational Acceptance, pursuant to GCC Clause 40;
 - ii. the Contract Price shall be adjusted to compensate the Supplier for any additional storage charges that the Supplier may incur as a result of the delay.

h) **Product Upgrades**

- i. At any point during performance of the Contract, should technological advances be introduced by the Supplier for Information Technologies originally offered by the Supplier in its tender and still to be delivered, the Supplier shall be obligated to offer to the Procuring Entity the latest versions of the available Information Technologies having equal or better performance or functionality at the same or lesser unit prices, pursuant to GCC Clause 39 (Changes to the System).
- ii. At any point during performance of the Contract, for Information Technologies still to be delivered, the Supplier will also pass on to the Procuring Entity any cost reductions and additional and/ or improved support and facilities that it offers to other clients of the Supplier in Kenya, pursuant to GCC Clause 39 (Changes to the System).
- iii. During performance of the Contract, the Supplier shall offer to the Procuring Entity all new versions, releases, and updates of Standard Software, as well as related documentation and technical support services, within thirty (30) days of their availability from the Supplier to other clients of the Supplier in Kenya, and no later than twelve (12) months after they are released in the country of origin. In no case will the prices for these Software exceed those quoted by the Supplier in the Recurrent Costs tables in its tender.
- iv. **Unless otherwise specified in the SCC**, during the Warranty Period, the Supplier will provide at no additional cost to the Procuring Entity all new versions, releases, and updates for all Standard Software that are used in the System, within thirty (30) days of their availability from the Supplier to other clients of the Supplier in Kenya, and no later than twelve (12) months after they are released in the country of origin of the Software.
- v. The Procuring Entity shall introduce all new versions, releases or updates of the Software within eighteen (18) months of receipt of a production-ready copy of the new version, release, or update, provided that the new version, release, or update does not adversely affect System operation or performance or require

extensive reworking of the System. In cases where the new version, release, or update adversely affects System operation or performance, or requires extensive reworking of the System, the Supplier shall continue to support and maintain the version or release previously in operation for as long as necessary to allow introduction of the new version, release, or update. In no case shall the Supplier stop supporting or maintaining a version or release of the Software less than twenty-four (24) months after the Procuring Entity receives a production-ready copy of a subsequent version, release, or update. The Procuring Entity shall use all reasonable endeavors to implement any new version, release, or update as soon as practicable, subject to the twenty-four-month-long stop date.

i) Implementation, Installation, and Other Services

- i. The Supplier shall provide all Services specified in the Contract and Agreed Project Plan in accordance with the highest standards of professional competence and integrity.
- ii. Prices charged by the Supplier for Services, if not included in the Contract, shall be agreed upon in advance by the parties (including, but not restricted to, any prices submitted by the Supplier in the Recurrent Cost Schedules of its Tender) and shall not exceed the prevailing rates charged by the Supplier to other Procuring Entity's in Kenya for similar services.

j) Inspections and Tests

- i. The Procuring Entity or its representative shall have the right to inspect and/or test any components of the System, as specified in the Technical Requirements, to confirm their good working order and/ or conformity to the Contract at the point of delivery and/ or at the Project Site.
- ii. The Procuring Entity or its representative shall be entitled to attend any such inspections and/or tests of the components, provided that the Procuring Entity shall bear all costs and expenses incurred in connection with such attendance, including but not limited to all inspection agent fees, travel, and related expenses.
- iii. Should the inspected or tested components fail to conform to the Contract, the Procuring Entity may reject the component (s), and the Supplier shall either replace the rejected component (s), or make alterations as necessary so that it meets the Contract requirements free of cost to the Procuring Entity.
- iv. The Project Manager may require the Supplier to carry out any inspection and/or test not specified in the Contract, provided that the Supplier's reasonable costs and expenses incurred in the carrying out of such inspection and/ or test shall be added to the Contract Price. Further, if such inspection and/ or test impedes the progress of work on the System and/or the Supplier's performance of its other obligations under the Contract, due allowance will be made in respect of the Time for Achieving Operational Acceptance and the other obligations so affected.
- v. If any dispute shall arise between the parties in connection with or caused by an inspection and/ or with regard to any component to be incorporated in the System that cannot be settled amicably between the parties within a reasonable period of time, either party may invoke the process pursuant to GCC Clause 43 (Settlement of Disputes), starting with referral of the matter to the Adjudicator in case an Adjudicator is included and named in the Contract Agreement.

k) Installation of the System

- i. As soon as the System, or any Subsystem, has, in the opinion of the Supplier, been delivered, Pre-commissioned, and made ready for Commissioning and Operational Acceptance Testing in accordance with the Technical Requirements, the SCC and the Agreed Project Plan, the Supplier shall so notify the Procuring Entity in writing.
- ii. The Project Manager shall, within fourteen (14) days after receipt of the Supplier's notice under GCC Clause 26.1, either issue an Installation Certificate in the form specified in the Sample Contractual Forms Section in the tendering documents, stating that the System, or major component or Subsystem (if Acceptance by major component or Sub system is specified pursuant to the SCC for GCC Clause 27.2.1), has achieved Installation by the date of the Supplier's notice under GCC Clause 26.1, or notify the Supplier in writing of any defects and/or deficiencies, including, but not limited to, defects or deficiencies in the interoperability

or integration of the various components and/or Subsystems making up the System. The Supplier shall use all reasonable endeavors to promptly remedy any defect and/ or deficiencies that the Project Manager has notified the Supplier of. The Supplier shall then promptly carryout retesting of the System or Sub system and, when in the Supplier's opinion the System or Sub system is ready for Commissioning and Operational Acceptance Testing, notify the Procuring Entity in writing, in accordance with GCC Clause 26.1. The procedure set out in this GCC Clause shall be repeated, as necessary, until an Installation Certificate is issued.

iii. If the Project Manager fails to issue the Installation Certificate and fails to inform the Supplier of any defects and/or deficiencies within fourteen (14) days after receipt of the Supplier's notice under GCC Clause 26.1, or if the Procuring Entity puts the System or a Subsystem in to production operation, then the System (or Subsystem) shall be deemed to have achieved successful Installation as of the date of the Supplier's notice or repeated notice, or when the Procuring Entity put the System in to production operation, as the case may be.

l) **Commissioning and Operational Acceptance**

i. Commissioning

a) Commissioning of the System (or Subsystem if specified pursuant to the SCC for GCC Clause 27.2.1) shall be commenced by the Supplier:

1. immediately after the Installation Certificate is issued by the Project Manager, pursuant to GCC Clause 26.2; or
2. as otherwise specified in the Technical Requirement or the Agreed Project Plan; or
3. immediately after Installation is deemed to have occurred, under GCC Clause 26.3.

2. The Procuring Entity shall supply the operating and technical personnel and all materials and information reasonably required to enable the Supplier to carry out its obligations with respect to Commissioning. Production use of the System or Subsystem(s) shall not commence prior to the start of formal Operational Acceptance Testing.

ii. Operational Acceptance Tests

1. The Operational Acceptance Tests (and repeats of such tests) shall be the primary responsibility of the Procuring Entity (in accordance with GCC Clause 10.9), but shall be conducted with the full cooperation of the Supplier during Commissioning of the System (or major components or Subsystem[s]), to ascertain whether the System (or major component or Subsystem[s]) conforms to the Technical Requirements and meets the standard of performance quoted in the Supplier's tender, including, but not restricted to, the functional and technical performance requirements. **Unless otherwise specified in the SCC**, the Operational Acceptance Tests during Commissioning will be conducted as specified in the Technical Requirements and/ or the Agreed Project Plan. At the Procuring Entity's discretion, Operational Acceptance Tests may also be performed on replacement Goods, upgrades and new version releases, and Goods that are added or field-modified after Operational Acceptance of the System.

2. If for reasons attributable to the Procuring Entity, the Operational Acceptance Test of the System (or Subsystem[s] or major components, pursuant to the SCC for GCC Clause 27.2.1) cannot be successfully completed within ninety (90) days from the date of Installation or any other period agreed upon in writing by the Procuring Entity and the Supplier, the Supplier shall be deemed to have fulfilled its obligations with respect to the technical and functional aspects of the Technical Specifications, SCC and/ or the Agreed Project Plan, and GCC Clause 28.2 and 28.3 shall not apply.

iii. Operational Acceptance

1. Subject to GCC Clause 27.4 (Partial Acceptance) below, Operational Acceptance shall occur

in respect of the System, when

- a) the Operational Acceptance Tests, as specified in the Technical Requirements, and/or SCC and/or the Agreed Project Plan have been successfully completed; or
- b) the Operational Acceptance Tests have not been successfully completed or have not been carried out for reasons that are attributable to the Procuring Entity within the period from the date of Installation or any other agreed-upon period as specified in GCC Clause 27.2.2 above; or
- c) the Procuring Entity has put the System into production or use for sixty (60) consecutive days. If the System is put into production or use in this manner, the Supplier shall notify the Procuring Entity and document such use.
 - 1. At any time after any of the events set out in GCC Clause 27.3.1 have occurred, the Supplier may give a notice to the Project Manager requesting the issue of an Operational Acceptance Certificate.
 - 2. After consultation with the Procuring Entity, and within fourteen (14) days after receipt of the Supplier's notice, the Project Manager shall:
 - a) Issue an Operational Acceptance Certificate; or
 - b) Notify the Supplier in writing of any defect or deficiencies or other reason for the failure of the Operational Acceptance Tests; or
 - c) Issue the Operational Acceptance Certificate, if the situation covered by GCC Clause 27.3.1 (b) arises.
 - 1. The Supplier shall use all reasonable endeavors to promptly remedy any defect and/or deficiencies and/or other reasons for the failure of the Operational Acceptance Test that the Project Manager has notified the Supplier of. Once such remedies have been made by the Supplier, the Supplier shall notify the Procuring Entity, and the Procuring Entity, with the full cooperation of the Supplier, shall use all reasonable endeavors to promptly carry out retesting of the System or Sub system. Upon the successful conclusion of the Operational Acceptance Tests, the Supplier shall notify the Procuring Entity of its request for Operational Acceptance Certification, in accordance with GCC Clause 27.3.3. The Procuring Entity shall then issue to the Supplier the Operational Acceptance Certification in accordance with GCC Clause 27.3.3 (a), or shall notify the Supplier of further defects, deficiencies, or other reasons for the failure of the Operational Acceptance Test. The procedure set out in this GCC Clause 27.3.4 shall be repeated, as necessary, until an Operational Acceptance Certificate is issued.
 - 2. If the System or Subsystem fails to pass the Operational Acceptance Test(s) in accordance with GCC Clause 27.2, the neither:
 - a) The Procuring Entity may consider terminating the Contract, pursuant to GCC Clause 41.2.2;
or
 - b) If the failure to achieve Operational Acceptance within the specified time period is a result of the failure of the Procuring Entity to fulfill its obligations under the Contract, then the Supplier shall be deemed to have fulfilled its obligations with respect to the relevant technical and functional aspects of the Contract, and GCC Clauses 30.3 and 30.4 shall not apply.
 - 1. If within fourteen (14) days after receipt of the Supplier's notice the Project Manager fails to issue the Operational Acceptance Certificate or fails to inform the Supplier in writing of the justifiable reasons why the Project Manager has not issued the Operational Acceptance Certificate, the System or Subsystem shall be deemed to have been accepted as of the date of the Supplier's said notice.

ii. Partial Acceptance

1. If so specified in the SCC for GCC Clause 27.2.1, Installation and Commissioning shall be carried out individually for each identified major component or Subsystem (s) of the System. In this event, the provisions in the Contract relating to Installation and Commissioning, including the Operational Acceptance Test, shall apply to each such major component or Subsystem individually, and Operational Acceptance Certificate (s) shall be issued accordingly for each such major component or Subsystem of the System, subject to the limitations contained in GCC Clause 27.4.2.
2. The issuance of Operational Acceptance Certificates for individual major components or Subsystems pursuant to GCC Clause 27.4.1 shall not relieve the Supplier of its obligation to obtain an Operational Acceptance Certificate for the System as an integrated whole (if so specified in the SCC for GCC Clauses 12.1 and 27.2.1) once all major components and Subsystems have been supplied, installed, tested, and commissioned.
3. In the case of minor components for the System that by their nature do not require Commissioning or an Operational Acceptance Test (e.g., minor fittings, furnishings or site works, etc.), the Project Manager shall issue an Operational Acceptance Certificate within fourteen (14) days after the fittings and/or furnishings have been delivered and/or installed or the site works have been completed. The Supplier shall, however, use all reasonable endeavors to promptly remedy any defects or deficiencies in such minor components detected by the Procuring Entity or Supplier.

F. Guarantees and Liabilities

m) Operational Acceptance Time Guarantee

- i. The Supplier guarantees that it shall complete the supply, Installation, Commissioning, and achieve Operational Acceptance of the System (or Subsystems, pursuant to the SCC for GCC Clause 27.2.1) within the time periods specified in the Implementation Schedule and/or the Agreed Project Plan pursuant to GCC Clause 8.2, or within such extended time to which the Supplier shall be entitled under GCC Clause 40 (Extension of Time for Achieving Operational Acceptance).
- ii. **Unless otherwise specified in the SCC**, if the Supplier fails to supply, install, commission, and achieve Operational Acceptance of the System (or Subsystems pursuant to the SCC for GCC Clause 27.2.1) within the time for achieving Operational Acceptance specified in the Implementation Schedule or the Agreed Project Plan, or any extension of the time for achieving Operational Acceptance previously granted under GCC Clause 40 (Extension of Time for Achieving Operational Acceptance), the Supplier shall pay to the Procuring Entity liquidated damages at the rate of one half of one percent per week as a percentage of the Contract Price (exclusive of Recurrent Costs if any), or the relevant part of the Contract Price if a Subsystem has not achieved Operational Acceptance. The aggregate amount of such liquidated damages shall in no event exceed the amount often (10) percent of the Contract Price (exclusive of Recurrent Costs if any). Once the Maximum is reached, the Procuring Entity may consider termination of the Contract, pursuant to GCC Clause 41.2.2.
- iii. **Unless otherwise specified in the SCC**, liquidated damages payable under GCC Clause 28.2 shall apply only to the failure to achieve Operational Acceptance of the System (and Subsystems) as specified in the Implementation Schedule and/or Agreed Project Plan. This Clause 28.3 shall not limit, however, any other rights or remedies the Procuring Entity may have under the Contract for other delays.
- iv. If liquidated damages are claimed by the Procuring Entity for the System (or Subsystem), the Supplier shall have no further liability whatsoever to the Procuring Entity in respect to the Operational Acceptance time guarantee for the System (or Subsystem). However, the payment of liquidated damages shall not in any way relieve the Supplier from any of its obligations to complete the System or from any other of its obligations and liabilities under the Contract.

n) Defect Liability

- i. The Supplier warrants that the System, including all Information Technologies, Materials, and other Goods supplied and Services provided, shall be free from defects in the design, engineering, Materials, and

workmanship that prevent the System and/or any of its components from fulfilling the Technical Requirements or that limit in a material fashion the performance, reliability, or extensibility of the System and/or Subsystems. **Unless otherwise specified in the SCC**, there will be NO exceptions and/or limitations to this warranty with respect to Software (or categories of Software). Commercial warranty provisions of products supplied under the Contract shall apply to the extent that they do not conflict with the provisions of this Contract.

- ii. The Supplier also warrants that the Information Technologies, Materials, and other Goods supplied under the Contract are new, unused, and incorporate all recent improvements in design that materially affect the System's or Subsystem's ability to fulfill the Technical Requirements.
- iii. **Unless otherwise specified in the SCC**, the Supplier warrants that :(i) all Goods components to be incorporated into the System form part of the Supplier's and/or Subcontractor's current product lines, and (ii) they have been previously released to the market.
- iv. **Unless otherwise specified in the SCC**, the Warranty Period shall commence from the date of Operational Acceptance of the System (or of any major component or Subsystem for which separate Operational Acceptance is provided for in the Contract) and shall extend for thirty-six (36) months.
- v. If during the Warranty Period any defect as described in GCC Clause 29.1 should be found in the design, engineering, Materials, and workmanship of the Information Technologies and other Goods supplied or of the Services provided by the Supplier, the Supplier shall promptly, in consultation and agreement with the Procuring Entity regarding appropriate remedying of the defects, and at its sole cost, repair, replace, or otherwise make good (as the Supplier shall, at its discretion, determine) such defect as well as any damage to the System caused by such defect. Any defective Information Technologies or other Goods that have been replaced by the Supplier shall remain the property of the Supplier.
- vi. The Supplier shall not be responsible for the repair, replacement, or making good of any defect, or of any damage to the System arising out of or resulting from any of the following causes:
 - 1. Improper operation or maintenance of the System by the Procuring Entity;
 - 2. Normal wear and tear;
 - 3. use of the System with items not supplied by the Supplier, unless otherwise identified in the Technical Requirements, or approved by the Supplier; or
 - 4. modifications made to the System by the Procuring Entity, or a third party, not approved by the Supplier.
- vii. The Supplier's obligations under this GCC Clause 29 shall not apply to:
 - 1. any materials that are normally consumed in operation or have a normal life shorter than the Warranty Period; or
 - 2. any designs, specifications, or other data designed, supplied, or specified by or on behalf of the Procuring Entity or any matters for which the Supplier has disclaimed responsibility, in accordance with GCC Clause 21.1.2.
- viii. The Procuring Entity shall give the Supplier a notice promptly following the discovery of such defect, stating the nature of any such defect together with all available evidence. The Procuring Entity shall afford all reasonable opportunity for the Supplier to inspect any such defect. The Procuring Entity shall afford the Supplier all necessary access to the System and the site to enable the Supplier to perform its obligations under this GCC Clause 29.
- ix. The Supplier may, with the consent of the Procuring Entity, remove from the site any Information Technologies and other Goods that are defective, if the nature of the defect, and/or any damage to the System caused by the defect, is such that repairs cannot be expeditiously carried out at the site. If the repair, replacement, or making good is of such a character that it may affect the efficiency of the System, the Procuring Entity may give the Supplier notice requiring that tests of the defective part be made by the Supplier immediately upon completion of such remedial work, where upon the Supplier shall carry out such

tests.

If such part fails the tests, the Supplier shall carry out further repair, replacement, or making good (as the case maybe) until that part of the System passes such tests. The tests shall be agreed upon by the Procuring Entity and the Supplier.

- x. **Unless otherwise specified in the SCC**, the response times and repair/replacement times for Warranty Defect Repair are specified in the Technical Requirements. Nevertheless, if the Supplier fails to commence the work necessary to remedy such defect or any damage to the System caused by such defect within two weeks the Procuring Entity may, following notice to the Supplier, proceed to do such work or contract a third party (or parties) to do such work, and the reasonable costs incurred by the Procuring Entity in connection with such work shall be paid to the Procuring Entity by the Supplier or may be deducted by the Procuring Entity from any monies due the Supplier or claimed under the Performance Security.
 - xi. If the System or Subsystem cannot be used by reason of such defect and/or making good of such defect, the Warranty Period for the System shall be extended by a period equal to the period during which the System or Subsystem could not be used by the Procuring Entity because of such defect and/or making good of such defect.
 - xii. Items substituted for defective parts of the System during the Warranty Period shall be covered by the Defect Liability Warranty for the remainder of the Warranty Period applicable for the part replaced or three (3) months, whichever is greater. For reasons of information security, the Procuring Entity may choose to retain physical possession of any replaced defective information storage devices.
 - xiii. At the request of the Procuring Entity and without prejudice to any other rights and remedies that the Procuring Entity may have against the Supplier under the Contract, the Supplier will offer all possible assistance to the Procuring Entity to seek warranty services or remedial action from any subcontracted third-party producers or licensor of Goods included in the System, including without limitation assignment or transfer in favor of the Procuring Entity of the benefit of any warranties given by such producers or licensors to the Supplier.
- o) **Functional Guarantees**
- i. The Supplier guarantees that, once the Operational Acceptance Certificate(s) has been issued, the System represents a complete, integrated solution to the Procuring Entity's requirements set forth in the Technical Requirements and it conforms to all other aspects of the Contract. The Supplier acknowledges that GCC Clause 27 regarding Commissioning and Operational Acceptance govern show technical conformance of the System to the Contract requirements will be determined.
 - ii. If, for reasons attributable to the Supplier, the System does not conform to the Technical Requirements or does not conform to all other aspects of the Contract, the Supplier shall at its cost and expense make such changes, modifications, and/or additions to the System as may be necessary to conform to the Technical Requirements and meet all functional and performance standards. The Supplier shall notify the Procuring Entity upon completion of the necessary changes, modifications, and/or additions and shall request the Procuring Entity to repeat the Operational Acceptance Tests until the System achieves Operational Acceptance.
 - iii. If the System (or Subsystem[s]) fails to achieve Operational Acceptance, the Procuring Entity may consider termination of the Contract, pursuant to GCC Clause 41.2.2, and forfeiture of the Supplier's Performance Security in accordance with GCC Clause 13.3 in compensation for the extra costs and delays likely to result from this failure.

p) **Intellectual Property Rights Warranty**

- i. The Supplier here by represents and warrants that:
 - 1. The System as supplied, installed, tested, and accepted;
 - 2. Use of the System in accordance with the Contract; and

3. Copying of the Software and Materials provided to the Procuring Entity in accordance with the Contract do not and will not infringe any Intellectual Property Rights held by any third party and that it has all necessary rights or at its sole expense shall have secured in writing all transfer so frights and other consents necessary to make the assignments, licenses, and other transfers of Intellectual Property Rights and the warranties set forth in the Contract, and for the Procuring Entity to own or exercise all Intellectual Property Rights as provided in the Contract. Without limitation, the Supplier shall secure all necessary written agreements, consents, and transfers of rights from its employees and other persons or entities whose services are used for development of the System.

q) Intellectual Property Rights Indemnity

- i. The Supplier shall indemnify and hold harmless the Procuring Entity and its employees and officers from and against any and all losses, liabilities, and costs (including losses, liabilities, and costs incurred in defending a claim alleging such a liability), that the Procuring Entity or its employees or officers may suffer as a result of any infringement or alleged infringement of any Intellectual Property Rights by reason of:
 1. Installation of the System by the Supplier or the use of the System, including the Materials, in the country where the site is located;
 2. copying of the Software and Materials provided by the Supplier in accordance with the Agreement; and
 3. sale of the products produced by the System in any country, except to the extent that such losses, liabilities, and costs a rise as a result of the Procuring Entity's breach of GCC Clause 32.2.
- ii. Such indemnity shall not cover any use of the System, including the Materials, other than for the purpose indicated by or to be reasonably inferred from the Contract, any infringement resulting from the use of the System, or any products of the System produced there by in association or combination with any other goods or services not supplied by the Supplier, where the infringement arises because of such association or combination and not because of use of the System in its own right.
- iii. Such indemnities shall also not apply if any claim of infringement:
 1. Is asserted by apparent, subsidiary, or affiliate of the Procuring Entity's organization;
 2. Is a direct result of a design mandated by the Procuring Entity's Technical Requirements and the possibility of such infringement was duly noted in the Supplier's Tender; or
 3. Results from the alteration of the System, including the Materials, by the Procuring Entity or any persons other than the Supplier or a person authorized by the Supplier.
- iv. If any proceedings are brought or any claim is made against the Procuring Entity arising out of the matters referred to in GCC Clause 32.1, the Procuring Entity shall promptly give the Supplier notice of such proceedings or claims, and the Supplier may at its own expense and in the Procuring Entity's name conduct such proceedings or claim and any negotiations for the settlement of any such proceedings or claim.

If the Supplier fails to notify the Procuring Entity within twenty-eight (28) days after receipt of such notice that it intends to conduct any such proceedings or claim, then the Procuring Entity shall be free to conduct the same on its own behalf. Unless the Supplier has so failed to notify the Procuring Entity within the twenty-eight (28) days, the Procuring Entity shall make no admission that may be prejudicial to the defense of any such proceedings or claim. The Procuring Entity shall, at the Supplier's request, afford all available assistance to the Supplier in conducting such proceedings or claim and shall be reimbursed by the Supplier for all reasonable expenses incurred in so doing.
- v. The Procuring Entity shall indemnify and hold harmless the Supplier and its employees, officers, and Subcontractors from and against any and all losses, liabilities, and costs (including losses, liabilities, and costs incurred in defending a claim alleging such a liability) that the Supplier or its employees, officers, or Subcontractors may suffer as a result of any infringement or alleged infringement of any Intellectual Property Rights arising out of or in connection with any design, data, drawing, specification, or other documents or materials provided to the Supplier in connection with this Contract by the Procuring Entity or any persons (other than the Supplier) contracted by the Procuring Entity, except to the extent that such

losses, liabilities, and costs arise as a result of the Supplier's breach of GCC Clause 32.8.

- vi. Such indemnity shall not cover
 - 1. any use of the design, data, drawing, specification, or other documents or materials, other than for the purpose indicated by or to be reasonably inferred from the Contract;
 - 2. any infringement resulting from the use of the design, data, drawing, specification, or other documents or materials, or any products produced thereby, in association or combination with any other Goods or Services not provided by the Procuring Entity or any other person contracted by the Procuring Entity, where the infringement arises because of such association or combination and not because of the use of the design, data, drawing, specification, or other documents or materials in its own right.
- vii. Such indemnities shall also not apply:
 - 1. If any claim of infringement is asserted by apparent, subsidiary, or affiliate of the Supplier's organization;
 - 2. to the extent that any claim of infringement is caused by the alteration, by the Supplier, or any persons contracted by the Supplier, of the design, data, drawing, specification, or other documents or materials provided to the Supplier by the Procuring Entity or any persons contracted by the Procuring Entity.
- viii. If any proceedings are brought or any claim is made against the Supplier arising out of the matters referred to in GCC Clause 32.5, the Supplier shall promptly give the Procuring Entity notice of such proceedings or claims, and the Procuring Entity may at its own expense and in the Supplier's name conduct such proceedings or claim and any negotiations for the settlement of any such proceedings or claim. If the Procuring Entity fails to notify the Supplier within twenty-eight (28) days after receipt of such notice that it intends to conduct any such proceedings or claim, then the Supplier shall be free to conduct the same on its own behalf. Unless the Procuring Entity has so failed to notify the Supplier within the twenty-eight (28) days, the Supplier shall make no admission that may be prejudicial to the defense of any such proceedings or claim. The Supplier shall, at the Procuring Entity's request, afford all available assistance to the Procuring Entity in conducting such proceedings or claim and shall be reimbursed by the Procuring Entity for all reasonable expenses incurred in so doing.

r) Limitation of Liability

- i. Provided the following does not exclude or limit any liabilities of either party in ways not permitted by applicable law:
 - 1. the Supplier shall not be liable to the Procuring Entity, whether in contract, tort, or otherwise, for any indirect or consequential loss or damage, loss of use, loss of production, or loss of profits or interest costs, provided that this exclusion shall not apply to any obligation of the Supplier to pay liquidated damages to the Procuring Entity; and
 - 2. the aggregate liability of the Supplier to the Procuring Entity, whether under the Contract, in tort or otherwise, shall not exceed the total Contract Price, provided that this limitation shall not apply to any obligation of the Supplier to indemnify the Procuring Entity with respect to intellectual property rights infringement.

G. Risk Distribution

s) Transfer of Ownership

- i. With the exception of Software and Materials, the ownership of the Information Technologies and other Goods shall be transferred to the Procuring Entity at the time of Delivery or otherwise under terms that may be agreed upon and specified in the Contract Agreement.
- ii. Ownership and the terms of usage of the Software and Materials supplied under the Contract shall be governed by GCC Clause 15 (Copyright) and any elaboration in the Technical Requirements.

- iii. Ownership of the Supplier's Equipment used by the Supplier and its Subcontractors in connection with the Contract shall remain with the Supplier or its Subcontractors.

- t) **Care of the System**
 - i. The Procuring Entity shall be come responsible for the care and custody of the System or Subsystems upon their Delivery. The Procuring Entity shall make good at its own cost any loss or damage that may occur to the System or Subsystems from any cause from the date of Delivery until the date of Operational Acceptance of the System or Subsystems, pursuant to GCC Clause 27 (Commissioning and Operational Acceptance), except such loss or damage arising from acts or omissions of the Supplier, its employees, or subcontractors.
 - ii. If any loss or damage occurs to the System or any part of the System by reason of:
 - 1. (in so far as they relate to the country where the Project Site is located) nuclear reaction, nuclear radiation, radioactive contamination, a pressure wave caused by aircraft or other aerial objects, or any other occurrences that an experienced contractor could not reasonably foresee, or if reasonably foreseeable could not reasonably make provision for or insure against, in so far as such risks are not normally insurable on the insurance market and are mentioned in the general exclusions of the policy of insurance taken out under GCC Clause 37;
 - 2. Any use not in accordance with the Contract, by the Procuring Entity or any third party;
 - 3. Any use of or reliance upon any design, data, or specification provided or designated by or on behalf of the Procuring Entity, or any such matter for which the Supplier has disclaimed responsibility in accordance with GCC Clause 21.1.2, the Procuring Entity shall pay to the Supplier all sums payable in respect of the System or Subsystems that have achieved Operational Acceptance, notwithstanding that the same be lost, destroyed, or damaged. If the Procuring Entity requests the Supplier in writing to make good any loss or damage to the System thereby occasioned, the Supplier shall make good the same at the cost of the Procuring Entity in accordance with GCC Clause 39. If the Procuring Entity does not request the Supplier in writing to make good any loss or damage to the System there by occasioned, the Procuring Entity shall either request a change in accordance with GCC Clause 39, excluding the performance of that part of the System there by lost, destroyed, or damaged, or, where the loss or damage affects a substantial part of the System, the Procuring Entity shall terminate the Contract pursuant to GCC Clause 41.1.
 - iii. The Procuring Entity shall be liable for any loss of or damage to any Supplier's Equipment which the Procuring Entity has authorized to locate within the Procuring Entity's premises for use in fulfillment of Supplier's obligations under the Contract, except where such loss or damage arises from acts or omissions of the Supplier, its employees, or subcontractors.

- u) **Loss of or Damage to Property; Accident or Injury to Workers; Indemnification**
 - i. The Supplier and each and every Subcontractor shall abide by the job safety, insurance, customs, and immigration measures prevalent and laws in force in Kenya.
 - ii. Subject to GCC Clause 36.3, the Supplier shall indemnify and hold harmless the Procuring Entity and its employees and officers from and against any and all losses, liabilities and costs (including losses, liabilities, and costs incurred in defending a claim alleging such a liability) that the Procuring Entity or its employees or officers may suffer as a result of the death or injury of any person or loss of or damage to any property (other than the System, whether accepted or not) arising in connection with the supply, installation, testing, and Commissioning of the System and by reason of the negligence of the Supplier or its Subcontractors, or their employees, officers or agents, except any injury, death, or property damage caused by the negligence of the Procuring Entity, its contractors, employees, officers, or agents.
 - iii. If any proceedings are brought or any claim is made against the Procuring Entity that might subject the Supplier to liability under GCC Clause 36.2, the Procuring Entity shall promptly give the Supplier notice of such proceedings or claims, and the Supplier may at its own expense and in the Procuring Entity's name conduct such proceedings or claim and any negotiations for the settlement of any such proceedings or claim. If the Supplier fails to notify the Procuring Entity within twenty-eight (28) days after receipt of such notice

that it intends to conduct any such proceedings or claim, then the Procuring Entity shall be free to conduct the same on its own behalf. Unless the Supplier has so failed to notify the Procuring Entity within the twenty-eight (28) day period, the Procuring Entity shall make no admission that may be prejudicial to the defense of any such proceedings or claim. The Procuring Entity shall, at the Supplier's request, afford all available assistance to the Supplier in conducting such proceedings or claim and shall be reimbursed by the Supplier for all reasonable expenses incurred in so doing.

- iv. The Procuring Entity shall indemnify and hold harmless the Supplier and its employees, officers, and Subcontractors from any and all losses, liabilities, and costs (including losses, liabilities, and costs incurred in defending a claim alleging such a liability) that the Supplier or its employees, officers, or Subcontractors may suffer as a result of the death or personal injury of any person or loss of or damage to property of the Procuring Entity, other than the System not yet achieving Operational Acceptance, that is caused by fire, explosion, or any other perils, in excess of the amount recoverable from insurances procured under GCC Clause 37 (Insurances), provided that such fire, explosion, or other perils were not caused by any act or failure of the Supplier.
- v. If any proceedings are brought or any claim is made against the Supplier that might subject the Procuring Entity to liability under GCC Clause 36.4, the Supplier shall promptly give the Procuring Entity notice of such proceedings or claims, and the Procuring Entity may at its own expense and in the Supplier's name conduct such proceedings or claim and any negotiations for the settlement of any such proceedings or claim. If the Procuring Entity fails to notify the Supplier within twenty-eight (28) days after receipt of such notice that it intends to conduct any such proceedings or claim, then the Supplier shall be free to conduct the same on its own behalf. Unless the Procuring Entity has so failed to notify the Supplier within the twenty-eight (28) days, the Supplier shall make no admission that may be prejudicial to the defense of any such proceedings or claim. The Supplier shall, at the Procuring Entity's request, afford all available assistance to the Procuring Entity in conducting such proceedings or claim and shall be reimbursed by the Procuring Entity for all reasonable expenses incurred in so doing.
- vi. The party entitled to the benefit of an indemnity under this GCC Clause 36 shall take all reasonable measures to mitigate any loss or damage that has occurred. If the party fails to take such measures, the other party's liabilities shall be correspondingly reduced.

v) **Insurances**

- i. The Supplier shall at its expense take out and maintain in effect, or cause to be taken out and maintained in effect, during the performance of the Contract, the insurance set forth below. The identity of the insurers and the form of the policies shall be subject to the approval of the Procuring Entity, who should not unreasonably withhold such approval.
 - 1. **Cargo Insurance During Transport**

as applicable, 110 percent of the price of the Information Technologies and other Goods in a freely convertible currency, covering the Goods from physical loss or damage during shipment through receipt at the Project Site.
 - 2. **Installation "All Risks" Insurance**

as applicable, 110 percent of the price of the Information Technologies and other Goods covering the Goods at the site from all risks of physical loss or damage (excluding only perils commonly excluded under "all risks" insurance policies of this type by reputable insurers) occurring prior to Operational Acceptance of the System.
 - 3. **Third-Party Liability Insurance**

On terms as **specified in the SCC**, covering bodily injury or death suffered by third parties (including the Procuring Entity's personnel) and loss of or damage to property (including the Procuring Entity's property and any Subsystems that have been accepted by the Procuring Entity) occurring in connection with the supply and installation of the Information System.
 - 4. **Automobile Liability Insurance**

In accordance with the statutory requirements prevailing in Kenya, covering use of all vehicles used by the Supplier or its Subcontractors (whether or not owned by them) in connection with the execution of the Contract.

5. Other Insurance (if any), as specified in the SCC.

- ii. The Procuring Entity shall be named as co-insured under all insurance policies taken out by the Supplier pursuant to GCC Clause 37.1, except for the Third-Party Liability, and the Supplier's Subcontractors shall be named as co-insured under all insurance policies taken out by the Supplier pursuant to GCC Clause 37.1 except for Cargo Insurance During Transport. All insurer's rights of subrogation against such co-insured for losses or claims arising out of the performance of the Contract shall be waived under such policies.
- iii. The Supplier shall deliver to the Procuring Entity certificates of insurance (or copies of the insurance policies) as evidence that the required policies are in full force and effect.
- iv. The Supplier shall ensure that, where applicable, its Subcontractor(s) shall take out and maintain in effect adequate insurance policies for their personnel and vehicles and for work executed by them under the Contract, unless such Subcontractors are covered by the policies taken out by the Supplier.
- v. If the Supplier fails to take out and/or maintain in effect the insurance referred to in GCC Clause 37.1, the Procuring Entity may takeout and maintain in effect any such insurance and may from time to time deduct from any amount due to the Supplier under the Contract any premium that the Procuring Entity shall have paid to the insurer or may otherwise recover such amount as a debt due from the Supplier.
- vi. Unless otherwise provided in the Contract, the Supplier shall prepare and conduct all and any claims made under the policies affected by it pursuant to this GCC Clause 37, and all monies payable by any insurers shall be paid to the Supplier. The Procuring Entity shall give to the Supplier all such reasonable assistance as may be required by the Supplier in connection with any claim under the relevant insurance policies. With respect to insurance claims in which the Procuring Entity's interest is involved, the Supplier shall not give any release or make any compromise with the insurer without the prior written consent of the Procuring Entity. With respect to insurance claims in which the Supplier's interest is involved, the Procuring Entity shall not give any release or make any compromise with the insurer without the prior written consent of the Supplier.

w) Force Majeure

- i. "Force Majeure" shall mean any event beyond the reasonable control of the Procuring Entity or of the Supplier, as the case may be, and which is unavoidable notwithstanding the reasonable care of the party affected and shall include, without limitation, the following:
 - 1. war, hostilities, or war like operations (whether a state of war be declared or not), invasion, act of foreign enemy, and civil war;
 - 2. rebellion, revolution, insurrection, mutiny, usurpation of civil or military government, conspiracy, riot, civil commotion, and terrorist acts;
 - 3. confiscation, nationalization, mobilization, commandeering or requisition by or under the order of any government or de jure or de facto authority or ruler, or any other act or failure to act of any local state or national government authority;
 - 4. strike, sabotage, lockout, embargo, import restriction, port congestion, lack of usual means of public transportation and communication, industrial dispute, shipwreck, shortage or restriction of power supply, epidemics, quarantine, and plague;
 - 5. earthquake, landslide, volcanic activity, fire, flood or inundation, tidal wave, typhoon or cyclone, hurricane, storm, lightning, or other inclement weather condition, nuclear and pressure waves, or other natural or physical disaster;
 - 6. failure, by the Supplier, to obtain the necessary export permit (s) from the governments of the Country(s) of Origin of the Information Technologies or other Goods, or Supplier's Equipment provided that the Supplier has made all reasonable efforts to obtain the required export permit(s), including the exercise of due diligence in determining the eligibility of the System and all of its components for

receipt of the necessary export permits.

- ii. If either party is prevented, hindered, or delayed from or in performing any of its obligations under the Contract by an event of Force Majeure, then it shall notify the other in writing of the occurrence of such event and the circumstances of the event of Force Majeure within fourteen (14) days after the occurrence of such event.
- iii. The party who has given such notice shall be excused from the performance or punctual performance of its obligations under the Contract for so long as the relevant event of Force Majeure continues and to the extent that such party's performance is prevented, hindered, or delayed. The Time for Achieving Operational Acceptance shall be extended in accordance with GCC Clause 40 (Extension of Time for Achieving Operational Acceptance).
- iv. The party or parties affected by the event of Force Majeure shall use reasonable efforts to mitigate the effect of the event of Force Majeure upon its or their performance of the Contract and to fulfill its or their obligations under the Contract, but without prejudice to either party's right to terminate the Contract under GCC Clause 38.6.
- v. No delay or nonperformance by either party to this Contract caused by the occurrence of any event of Force Majeure shall:
 - 1. Constitute a default or breach of the Contract;
 - 2. (subject to GCC Clauses 35.2, 38.3, and 38.4) give rise to any claim for damages or additional cost or expense occasioned by the delay or nonperformance, if, and to the extent that, such delay or non-performance is caused by the occurrence of an event of Force Majeure.
- vi. If the performance of the Contract is substantially prevented, hindered, or delayed for a single period of more than sixty (60) days or an aggregate period of more than one hundred and twenty (120) days on account of one or more events of Force Majeure during the time period covered by the Contract, the parties will attempt to develop a mutually satisfactory solution, failing which, either party may terminate the Contract by giving a notice to the other.
- vii. In the event of termination pursuant to GCC Clause 38.6, the rights and obligations of the Procuring Entity and the Supplier shall be as specified in GCC Clauses 41.1.2 and 41.1.3.
- viii. Notwithstanding GCC Clause 38.5, Force Majeure shall not apply to any obligation of the Procuring Entity to make payments to the Supplier under this Contract.

H. Change in Contract Elements

x) Changes to the System

i. Introducing a Change

- 1. Subject to GCC Clauses 39.2.5 and 39.2.7, the Procuring Entity shall have the right to propose, and subsequently require, the Project Manager to order the Supplier from time to time during the performance of the Contract to make any change, modification, addition, or deletion to, in, or from the System (interchangeably called "Change"), provided that such Change falls within the general scope of the System, does not constitute unrelated work, and is technically practicable, taking into account both the state of advancement of the System and the technical compatibility of the Change envisaged with the nature of the System as originally specified in the Contract.

29.1.2A Change may involve, but is not restricted to, the substitution of updated Information Technologies and related Services in accordance with GCC Clause 23 (Product Upgrades).

39.1.3 The Supplier may from time to time during its performance of the Contract propose to the Procuring Entity (with a copy to the Project Manager) any Change that the Supplier considers necessary or desirable to

improve the quality or efficiency of the System. The Procuring Entity may at its discretion approve or reject any Change proposed by the Supplier.

1. Notwithstanding GCC Clauses 39.1.1 and 39.1.2, no change made necessary because of any default of the Supplier in the performance of its obligations under the Contract shall be deemed to be a Change, and such change shall not result in any adjustment of the Contract Price or the Time for Achieving Operational Acceptance.
2. The procedure on how to proceed with and execute Changes is specified in GCC Clauses 39.2 and 39.3, and further details and sample forms are provided in the Sample Contractual Forms Section in the tendering documents.
3. Moreover, the Procuring Entity and Supplier will agree, during development of the Project Plan, to a date prior to the scheduled date for Operational Acceptance, after which the Technical Requirements for the System shall be "frozen." Any Change initiated after this time will be dealt with after Operational Acceptance.

iii. Changes Originating from Procuring Entity

1. If the Procuring Entity proposes a Change pursuant to GCC Clauses 39.1.1, it shall send to the Supplier a "Request for Change Proposal," requiring the Supplier to prepare and furnish to the Project Manager as soon as reasonably practicable a "Change Proposal," which shall include the following:
 - a) Brief description of the Change;
 - b) Impact on the Time for Achieving Operational Acceptance;
 - c) Detailed estimated cost of the Change;
 - d) Effect on Functional Guarantees (if any);
 - e) Effect on any other provisions of the Contract.
1. Prior to preparing and submitting the "Change Proposal," the Supplier shall submit to the Project Manager a "Change Estimate Proposal," which shall be an estimate of the cost of preparing the Change Proposal, plus a first approximation of the suggested approach and cost for implementing the changes. Upon receipt of the Supplier's Change Estimate Proposal, the Procuring Entity shall do one of the following:
 - a) accept the Supplier's estimate with instructions to the Supplier to proceed with the preparation of the Change Proposal;
 - b) advise the Supplier of any part of its Change Estimate Proposal that is unacceptable and request the Supplier to review its estimate;
 - c) advise the Supplier that the Procuring Entity does not intend to proceed with the Change.
1. Upon receipt of the Procuring Entity's instruction to proceed under GCC Clause 39.2.2 (a), the Supplier shall, with proper expedition, proceed with the preparation of the Change Proposal, in accordance with GCC Clause 39.2.1. The Supplier, at its discretion, may specify a validity period for the Change Proposal, after which if the Procuring Entity and Supplier has not reached agreement in accordance with GCC Clause 39.2.6, then GCC Clause 39.2.7 shall apply.
 2. The pricing of any Change shall, as far as practicable, be calculated in accordance with the rates and prices included in the Contract. If the nature of the Change is such that the Contract rates and prices are inequitable, the parties to the Contract shall agree on other specific rates to be used for valuing the Change.

3. If before or during the preparation of the Change Proposal it becomes apparent that the aggregate impact of compliance with the Request for Change Proposal and with all other Change Orders that have already become binding upon the Supplier under this GCC Clause 39 would be to increase or decrease the Contract Price as originally set forth in Article 2 (Contract Price) of the Contract Agreement by more than fifteen (15) percent, the Supplier may give a written notice of objection to this Request for Change Proposal prior to furnishing the Change Proposal. If the Procuring Entity accepts the Supplier's objection, the Procuring Entity shall withdraw the proposed Change and shall notify the Supplier in writing of its acceptance.

The Supplier's failure to so object to a Request for Change Proposal shall neither affect its right to object to any subsequent requested Changes or Change Orders, nor affect its right to take into account, when making such subsequent objection, the percentage increase or decrease in the Contract Price that any Change not objected to by the Supplier represents.

4. Upon receipt of the Change Proposal, the Procuring Entity and the Supplier shall mutually agree upon all matters contained in the Change Proposal. Within fourteen (14) days after such agreement, the Procuring Entity shall, if it intends to proceed with the Change, issue the Supplier a Change Order. If the Procuring Entity is unable to reach a decision within fourteen (14) days, it shall notify the Supplier with details of when the Supplier can expect a decision. If the Procuring Entity decides not to proceed with the Change for whatever reason, it shall, within the said period of fourteen (14) days, notify the Supplier accordingly. Under such circumstances, the Supplier shall be entitled to reimbursement of all costs reasonably incurred by it in the preparation of the Change Proposal, provided that these do not exceed the amount given by the Supplier in its Change Estimate Proposal submitted in accordance with GCC Clause 39.2.2.
5. If the Procuring Entity and the Supplier cannot reach agreement on the price for the Change, an equitable adjustment to the Time for Achieving Operational Acceptance, or any other matters identified in the Change Proposal, the Change will not be implemented. However, this provision does not limit the rights of either party under GCC Clause 6 (Settlement of Disputes).

ii. Changes Originating from Supplier

If the Supplier proposes a Change pursuant to GCC Clause 39.1.2, the Supplier shall submit to the Project Manager a written "Application for Change Proposal," giving reasons for the proposed Change and including the information specified in GCC Clause 39.2.1. Upon receipt of the Application for Change Proposal, the parties shall follow the procedures outlined in GCC Clauses 39.2.6 and 39.2.7. However, should the Procuring Entity choose not to proceed or the Procuring Entity and the Supplier cannot come to agreement on the change during any validity period that the Supplier may specify in its Application for Change Proposal, the Supplier shall not be entitled to recover the costs of preparing the Application for Change Proposal, unless subject to an agreement between the Procuring Entity and the Supplier to the contrary.

- iii. Value engineering. The Supplier may prepare, at its own cost, a value engineering proposal at any time during the performance of the Contract. The value engineering proposal shall, at a minimum, include the following:
 - a) The proposed change (s), and a description of the difference to the existing Contract requirements;
 - b) a full cost/benefit analysis of the proposed change(s) including a description and estimate of costs (including life cycle costs) the Procuring Entity may incur in implementing the value engineering proposal; and
 - c) a description of any effect(s) of the change on performance/ functionality.

The Procuring Entity may accept the value engineering proposal if the proposal demonstrates benefits that:

- a) accelerates the delivery period; or

- b) reduces the Contract Price or the life cycle costs to the Procuring Entity; or
- c) improves the quality, efficiency, safety or sustainability of the systems; or
- d) yields any other benefits to the Procuring Entity, without compromising the necessary functions of the systems.

If the value engineering proposal is approved by the Procuring Entity and results in:

- a) a reduction of the Contract Price; the amount to be paid to the Supplier shall be the percentage specified in the SCC of the reduction in the Contract Price; or
 - b) an increase in the Contract Price; but results in a reduction in life cycle costs due to any benefit described in
- i. to (d) above, the amount to be paid to the Supplier shall be the full increase in the Contract Price.

y) Extension of Time for Achieving Operational Acceptance

- i. The time(s) for achieving Operational Acceptance specified in the Schedule of Implementation shall be extended if the Supplier is delayed or impeded in the performance of any of its obligations under the Contract by reason of any of the following:
 - 1. Any Change in the System as provided in GCC Clause 39 (Change in the Information System);
 - 2. Any occurrence of Force Majeure as provided in GCC Clause 38 (Force Majeure);
 - 3. Default of the Procuring Entity; or
 - 4. Any other matter specifically mentioned in the Contract; by such period as shall be fair and reasonable in all the circumstances and as shall fairly reflect the delay or impediment sustained by the Supplier.
- ii. Except where otherwise specifically provided in the Contract, the Supplier shall submit to the Project Manager a notice of a claim for an extension of the time for achieving Operational Acceptance, together with particulars of the event or circumstance justifying such extension as soon as reasonably practicable after the commencement of such event or circumstance. As soon as reasonably practicable after receipt of such notice and supporting particulars of the claim, the Procuring Entity and the Supplier shall agree upon the period of such extension. In the event that the Supplier does not accept the Procuring Entity's estimate of a fair and reasonable time extension, the Supplier shall be entitled to refer the matter to the provisions for the Settlement of Disputes pursuant to GCC Clause 43.
- iii. The Supplier shall at all times use its reasonable efforts to minimize any delay in the performance of its obligations under the Contract.

z) Termination

- i. Termination for Procuring Entity's Convenience
 - 1. The Procuring Entity may at any time terminate the Contract for any reason by giving the Supplier a notice of termination that refers to this GCC Clause 41.1.
- 41.1.2 Upon receipt of the notice of termination under GCC Clause 41.1.1, the Supplier shall either as soon as reasonably practical or upon the date specified in the notice of termination
- 1. cease all further work, except for such work as the Procuring Entity may specify in the notice of termination for the sole purpose of protecting that part of the System already executed, or any work required to leave the site in a clean and safe condition;

2. terminate all subcontracts, except those to be assigned to the Procuring Entity pursuant to GCC Clause (d) (ii) below;
 3. Remove all Supplier's Equipment from the site, repatriate the Supplier's and its Subcontractors' personnel from the site, remove from the site any wreckage, rubbish, and debris of any kind;
4. In addition, the Supplier, subject to the payment specified in GCC Clause 41.1.3, shall
 1. deliver to the Procuring Entity the parts of the System executed by the Supplier up to the date of termination;
 2. to the extent legally possible, assign to the Procuring Entity all right, title, and benefit of the Supplier to the System, or Subsystem, as at the date of termination, and, as may be required by the Procuring Entity, in any subcontracts concluded between the Supplier and its Subcontractors;
 3. deliver to the Procuring Entity all nonproprietary drawings, specifications, and other documents prepared by the Supplier or its Subcontractors as of the date of termination in connection with the System.

41.1.3 In the event of termination of the Contract under GCC Clause 41.1.1, the Procuring Entity shall pay to the Supplier the following amounts:

1. The Contract Price, properly attributable to the parts of the System executed by the Supplier as of the date of termination;
2. The costs reasonably incurred by the Supplier in the removal of the Supplier's Equipment from the site and in the repatriation of the Supplier's and its Subcontractors' personnel;
3. any amount to be paid by the Supplier to its Subcontractors in connection with the termination of any subcontracts, including any cancellation charges;
4. costs incurred by the Supplier in protecting the System and leaving the site in a clean and safe condition pursuant to GCC Clause 41.1.2(a); and
5. the cost of satisfying all other obligations, commitments, and claims that the Supplier may in good faith have undertaken with third parties in connection with the Contract and that are not covered by GCC Clauses 41.1.3 (a) through (d) above.

ii. Termination for Supplier's Default

41.2.1 The Procuring Entity, without prejudice to any other rights or remedies it may possess, may terminate the Contract forth within the following circumstances by giving a notice of termination and its reasons there for to the Supplier, referring to this GCC Clause 41.2:

1. If the Supplier becomes bankrupt or insolvent, has a receiving order issued against it, compounds with its creditors, or, if the Supplier is a corporation, a resolution is passed or order is made for its winding up (other than a voluntary liquidation for the purposes of amalgamation or reconstruction), a receiver is appointed over any part of its undertaking or assets, or if the Supplier takes or suffers any other analogous action in consequence of debt;
2. If the Supplier assigns or transfers the Contractor any right or interest, there in in violation of the provision of GCC Clause 42 (Assignment); or
3. If the Supplier, in the judgment of the Procuring Entity has engaged in Fraud and Corruption, as defined in paragraph 2.2a. of the Appendix to the GCC, in competing for or in executing the Contract, including but

Not limited to willful misrepresentation of facts concerning ownership of Intellectual Property Rights in, or proper authorization and/or licenses from the owner to offer, the hardware, software, or materials provided under this Contract.

41.2.2 If the Supplier:

4. Has abandoned or repudiated the Contract;
5. Has without valid reason failed to commence work on the System promptly;
6. Persistently fails to execute the Contract in accordance with the Contract or persistently neglects to carry out its obligations under the Contract without just cause;
7. Refuses or is unable to provide sufficient Materials, Services, or labor to execute and complete the System in the manner specified in the Agreed Project Plan furnished under GCC Clause 19 at rates of progress that give reasonable assurance to the Procuring Entity that the Supplier can attain Operational Acceptance of the System by the Time for Achieving Operational Acceptance as extended; then the Procuring Entity may, without prejudice to any other rights it may possess under the Contract, give a notice to the Supplier stating the nature of the default and requiring the Supplier to remedy the same. If the Supplier fails to remedy or to take steps to remedy the same within fourteen (14) days of its receipt of such notice, then the Procuring Entity may terminate the Contract forthwith by giving a notice of termination to the Supplier that refers to this GCC Clause 41.2.
 1. Upon receipt of the notice of termination under GCC Clauses 41.2.1 or 41.2.2, the Supplier shall, either immediately or upon such date as is specified in the notice of termination:
 1. cease all further work, except for such work as the Procuring Entity may specify in the notice of termination for the sole purpose of protecting that part of the System already executed or any work required to leave the site in a clean and safe condition;
 2. terminate all subcontracts, except those to be assigned to the Procuring Entity pursuant to GCC Clause (d) below;
 3. deliver to the Procuring Entity the parts of the System executed by the Supplier up to the date of termination;
 4. to the extent legally possible, assign to the Procuring Entity all right, title and benefit of the Supplier to the System or Subsystems as at the date of termination, and, as may be required by the Procuring Entity, in any subcontracts concluded between the Supplier and its Subcontractors;
 5. deliver to the Procuring Entity all drawings, specifications, and other documents prepared by the Supplier or its Subcontractors as at the date of termination in connection with the System.
 2. The Procuring Entity may enter upon the site, expel the Supplier, and complete the System itself or by employing any third party. Upon completion of the System or at such earlier date as the Procuring Entity thinks appropriate, the Procuring Entity shall give notice to the Supplier that such Supplier's Equipment will be returned to the Supplier at or near the site and shall return such Supplier's Equipment to the Supplier in accordance with such notice. The Supplier shall thereafter without delay and at its cost remove or arrange removal of the same from the site.
 3. Subject to GCC Clause 41.2.6, the Supplier shall be entitled to be paid the Contract Price attributable to the portion of the System executed as at the date of termination and the costs, if any, incurred in protecting the System and in leaving the site in a clean and safe condition pursuant to GCC Clause 41.2.3 (a). Any sums due the Procuring Entity from the Supplier accruing prior to the date of termination shall be deducted from the amount to be paid to the Supplier under this Contract.
 4. If the Procuring Entity completes the System, the cost of completing the System by the Procuring Entity shall be determined. If the sum that the Supplier is entitled to be paid, pursuant to GCC Clause 41.2.5, plus the reasonable costs incurred by the Procuring Entity in completing the System, exceeds the Contract Price, the Supplier shall be liable for such

excess. If such excess is greater than the sums due the Supplier under GCC Clause 41.2.5, the Supplier shall pay the balance to the Procuring Entity, and if such excess is less than the sums due the Supplier under GCC Clause 41.2.5, the Procuring Entity shall pay the balance to the Supplier. The Procuring Entity and the Supplier shall agree, in writing, on the computation described above and the manner in which any sums shall be paid.

iii. Termination by Supplier

1. If:

1. the Procuring Entity has failed to pay the Supplier any sum due under the Contract within the specified period, has failed to approve any invoice or supporting documents without just cause **pursuant to the SCC**, or commits a substantial breach of the Contract, the Supplier may give a notice to the Procuring Entity that requires payment of such sum, with interest on this sum as stipulated in GCC Clause 12.3, requires approval of such invoice or supporting documents, or specifies the breach and requires the Procuring Entity to remedy the same, as the case may be. If the Procuring Entity fails to pay such sum together with such interest, fails to approve such invoice or supporting documents or give its reasons for withholding such approval, fails to remedy the breach or take steps to remedy the breach within fourteen

(14) days after receipt of the Supplier's notice; or

2. the Supplier is unable to carry out any of its obligations under the Contract for any reason attributable to the Procuring Entity, including but not limited to the Procuring Entity's failure to provide possession of or access to the site or other areas or failure to obtain any governmental permit necessary for the execution and/or completion of the System; then the Supplier may give a notice to the Procuring Entity of such events, and if the Procuring Entity has failed to pay the outstanding sum, to approve the invoice or supporting documents, to give its reasons for withholding such approval, or to remedy the breach within twenty-eight (28) days of such notice, or if the Supplier is still unable to carry out any of its obligations under the Contract for any reason attributable to the Procuring Entity within twenty-eight (28) days of the said notice, the Supplier may by a further notice to the Procuring Entity referring to this GCC Clause 41.3.1, forth with terminate the Contract.

41.3.2 The Supplier may terminate the Contract immediately by giving a notice to the Procuring Entity to that effect, referring to this GCC Clause 41.3.2, if the Procuring Entity becomes bankrupt or insolvent, has a receiving order issued against it, compounds with its creditors, or, being a corporation, if a resolution is passed or order is made for its winding up (other than a voluntary liquidation for the purposes of amalgamation or reconstruction), a receiver is appointed over any part of its undertaking or assets, or if the Procuring Entity takes or suffers any other analogous action in consequence of debt.

41.3.3 If the Contract is terminated under GCC Clauses 41.3.1 or 41.3.2, then the Supplier shall immediately:

3. Cease all further work, except for such work as may be necessary for the purpose of protecting that part of the System already executed, or any work required to leave the site in a clean and safe condition;
4. Terminate all subcontracts, except those to be assigned to the Procuring Entity pursuant to Clause 41.3.3 (d) (ii);
5. remove all Supplier's Equipment from the site and repatriate the Supplier's and its Subcontractor's personnel from the site.
6. In addition, the Supplier, subject to the payment specified in GCC Clause 41.3.4, shall:

- a. deliver to the Procuring Entity the parts of the System executed by the Supplier up to the date of termination;
 - b. to the extent legally possible, assign to the Procuring Entity all right, title, and benefit of the Supplier to the System, or Subsystems, as of the date of termination, and, as may be required by the Procuring Entity, in any subcontracts concluded between the Supplier and its Subcontractors;
 - c. to the extent legally possible, deliver to the Procuring Entity all drawings, specifications, and other documents prepared by the Supplier or its Subcontractors as of the date of termination in connection with the System.
- iv. If the Contract is terminated under GCC Clauses 41.3.1 or 41.3.2, the Procuring Entity shall pay to the Supplier all payments specified in GCC Clause 41.1.3 and reasonable compensation for all loss, except for loss of profit, or damage sustained by the Supplier arising out of, in connection with, or in consequence of such termination.
 - v. Termination by the Supplier pursuant to this GCC Clause 41.3 is without prejudice to any other rights or remedies of the Supplier that may be exercised in lieu of or in addition to rights conferred by GCC Clause 41.3.
 - vi. In this GCC Clause 41, the expression “portion of the System executed” shall include all work executed, Services provided, and all Information Technologies, or other Goods acquired (or subject to a legally binding Obligation to purchase) by the Supplier and used or intended to be used for the purpose of the System, up to and including the date of termination.
 - vii. In this GCC Clause 41, in calculating any monies due from the Procuring Entity to the Supplier, account shall be taken of any sum previously paid by the Procuring Entity to the Supplier under the Contract, including any advance payment paid **pursuant to the SCC**.
- aa) **Assignment**
- 42.1 Neither the Procuring Entity nor the Supplier shall, without the express prior written consent of the other, assign to any third party the Contractor any part thereof, or any right, benefit, obligation, or interest there in or there under, except that the Supplier shall be entitled to assign either absolutely or by way of charge any monies due and payable to it or that may become due and payable to it under the Contract.
- I. **Settlement of Disputes**
- bb) **Settlement of Disputes**
- i. **Adjudication**
- 1. If any dispute of any kind what so ever shall arise between the Procuring Entity and the Supplier in connection with or arising out of the Contract, including without prejudice to the generality of the foregoing, any question regarding its existence, validity, or termination, or the operation of the System (whether during the progress of implementation or after its achieving Operational Acceptance and whether before or after the termination, abandonment, or breach of the Contract), the parties shall seek to resolve any such dispute **by mutual consultation**. If the parties fail to resolve such a dispute by mutual consultation within fourteen (14) days after one party has notified the other in writing of the dispute, then, if the Contract Agreement in Appendix 2 includes and names an Adjudicator, the dispute shall, within another fourteen (14) days, be referred in writing by either party to the Adjudicator, with a copy to the other party. If there is no Adjudicator specified in the Contract Agreement, the mutual consultation period stated above shall last twenty-eight (28) days (instead of fourteen), upon expiry of which either party may move to the notification of arbitration pursuant to GCC Clause 43.2.1.
 - 2. The Adjudicator shall give his or her decision in writing to both parties within twenty-eight (28) days of the dispute being referred to the Adjudicator. If the Adjudicator has done so, and no notice of intention to commence arbitration has been given by either the Procuring Entity or the Supplier within fifty-six (56) days of such reference, the decision shall become final and binding upon the Procuring Entity and the Supplier.

Any decision that has become final and binding shall be implemented by the parties forth with.

3. The Adjudicator shall be paid an hourly fee at the rate specified in the Contract Agreement plus reasonable expenditures incurred in the execution of duties as Adjudicator, and these costs shall be divided equally between the Procuring Entity and the Supplier.
4. Should the Adjudicator resign or die, or should the Procuring Entity and the Supplier agree that the Adjudicator is not fulfilling his or her functions in accordance with the provisions of the Contract, a new Adjudicator shall be jointly appointed by the Procuring Entity and the Supplier. Failing agreement between the two within twenty-eight (28) days, the new Adjudicator shall be appointed at the request of either party by the Appointing Authority **specified in the SCC**, or, if no Appointing Authority is **specified in SCC**, the Contract shall, from this point onward and until the parties may otherwise agree on an Adjudicator or an Appointing Authority, be implemented as if there is no Adjudicator.

43.2 Arbitration

43.2.1 If

- i. the Procuring Entity or the Supplier is dissatisfied with the Adjudicator's decision and acts before this decision has become final and binding pursuant to GCC Clause 43.1.2, or
 - ii. the Adjudicator fails to give a decision within the allotted time from referral of the dispute pursuant to GCC Clause 43.1.2, and the Procuring Entity or the Supplier acts within the following fourteen (14) days, or
 - iii. in the absence of an Adjudicator from the Contract Agreement, the mutual consultation pursuant to GCC Clause 43.1.1 expires without resolution of the dispute and the Procuring Entity or the Supplier acts within the following fourteen (14) days, then either the Procuring Entity or the Supplier may act to give notice to the other party, with a copy for information to the Adjudicator in case an Adjudicator had been involved, of its intention to commence arbitration, as provided below, as to the matter in dispute, and no arbitration in respect of this matter may be commenced unless such notice is given.
1. Any dispute in respect of which a notice of intention to commence arbitration has been given, in accordance with GCC Clause 43.2.1, shall be finally settled by arbitration. Arbitration may be commenced prior to or after Installation of the Information System.
 2. Arbitration proceedings shall be conducted in accordance with the rules of procedure **specified in the SCC**.
- iv. Notwithstanding any reference to the Adjudicator or arbitration in this clause,
 - a) The parties shall continue to perform their respective obligations under the Contract unless they otherwise agree;
 - b) The Procuring Entity shall pay the Supplier any monies due the Supplier.

SECTION VII - SPECIAL CONDITIONS OF CONTRACT

Special Conditions of Contract

The following Special Conditions of Contract (SCC) shall supplement or amend the General Conditions of Contract (GCC). Whenever there is a conflict, the provisions of the SCC shall prevail over those in the General Conditions of Contract. For the purposes of clarity, any referenced GCC clause numbers are indicated in the left column of the SCC.

a) Contract and Interpretation

i. Definitions (GCC Clause1)

GCC 1.1 (b) (i)	The Procuring Entity is: [insert: complete legal name of the Procuring Entity].
GCC 1.1 (b) (ii)	The Project Manager is: [insert: name and/or the official title of Project Manager]. GCC
GCC 1.1 (e) (x)	There are no Special Conditions associated with GCC 1.1 (e) (x). <i>[Note: The GCC default specifies the Contract Period as when all the Supplier's obligations are completed. If there is a reason to set a hard-and-fast calendar date for the Contract Period to end, then specify here]</i>
GCC 1.1 (e) (xiii)	The Post-Warranty Services Period is [insert: number of months] starting with the completion of the Warranty Period.

1. Notices (GCC Clause 4)

GCC 4.3	Address of the Project Manager: [as appropriate, insert: personal delivery, postal, email, and/or EDI addresses.] Fallback address of the Procuring Entity: [as appropriate, insert: personal delivery, postal, facsimile, email, and/or EDI addresses.] <i>[Note: If the Procuring Entity wishes to use Electronic Data Interchange (EDI) to communicate with the Supplier, it should specify the standards and protocols (for example ANSI A1 or ISO EDIFACT). The details may then be revised at Contract finalization. If so, add the following text.]</i> For Electronic Data Interchange (EDI) the Procuring Entity and Supplier will use the following standards, protocols, addresses, and procedures: [insert: standards, protocols, addresses; also describe: any relevant procedures]
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B. Subject Matter of Contract

3. Scope of the System (GCC Clause 7)

GCC 7.3	The Supplier's obligations under the Contract will include the following recurrent cost items, as identified in the Recurrent Cost tables in the Supplier's Tender: <i>[specify: the recurrent cost items/services that are included in the Contract; also provide cross reference to the place in the Technical Requirements where each item/service is specified in detail.]</i> <i>[Note: The requirements in terms of recurrent cost items should be defined here, reflected in the Recurrent Cost Table for the Warranty period, and elaborated in the Technical Requirements. See also notes to SCC Clause 29.4 regarding services that are not typically included in commercial warranties.]</i>
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7. Terms of Payment (GCC Clause 12)

GCC 12.1	<p>Subject to the provisions of GCC Clause 12 (Terms of Payment), the Procuring Entity shall pay the Contract Price to the Supplier according to the categories and in the manner specified below. Only the categories Advance Payment and Complete System Integration relate to the entire Contract Price. In other payment categories, the term "total Contract Price" means the total cost of goods or services under the specific payment category. Within each such category, the Contract Implementation Schedule may trigger pro-rata payments for the portion of the total Contract Price for the category corresponding to the goods or services actually Delivered, Installed, or Operationally Accepted, at unit prices and in the currencies specified in the Price Schedules of the Contract Agreement.</p> <p>(a) Advance Payment twenty percent (20%) of the entire Contract Price, exclusive of all Recurrent Costs, shall be paid against receipt of a claim accompanied by the Advance Payment Security specified in GCC Clause 13.2.</p> <p><i>[Note: The advance payment may be higher than 10% in cases where Supplier's mobilization costs (i.e., costs between Contract effectiveness and the first scheduled Contract payment) are likely to be much larger than the advance payment, resulting in substantial negative cash flow for the Supplier. This happens primarily in projects where the Supplier must acquire expensive highly-specialized equipment to customize and configure a solution system prior to the first scheduled payment milestone. In these cases, the entire schedule of payments below obviously needs to be adjusted accordingly.]</i></p> <p>(b) Information Technologies, Materials, and other Goods, with the exception of Custom Software and Custom Materials: sixty percent (60%) of the total or pro-rata Contract Price for this category against Delivery ten percent (10%) of the same price against Installation ten percent (10%) of the same price against Operational Acceptance.</p> <p>(c) Custom Software and Custom Materials: sixty percent (60%) of the total or pro-rata Contract Price for this category against Installation twenty percent (20%) of the same price against Operational Acceptance.</p> <p><i>[Note: Large custom software development or system integration contracts (e.g., those taking longer than six months from Contract Effectiveness to Operational Acceptance of the Application Software subsystem) are usually paid in increments against Procuring Entity's acceptance of major intermediate deliverables defined in the implementation schedule as key milestones (e.g. a sequence of major system design documents, such as: software requirements specifications, software design document, development of a prototype for a major subsystem, delivery of a pilot implementation of the software for a subsystem or the entire system, etc.). In those cases, the above payment terms should be modified accordingly and refer to the milestones in the Implementation Schedule. The payment terms should allow the Supplier an adequate cash flow vis-à-vis the steps need to achieve an operational Information System.]</i></p> <p>(d) Services other than Training: eighty percent (80%) of the pro-rata Contract Price for services performed will be paid monthly in arrears, on submission and Procuring Entity's approval of invoices:</p> <p><i>[Note: If a separate Operational Acceptance for the System as an integrated whole is not required, increase by 10% points the final payment percentages of all other goods and services above.]</i></p>
GCC 12.3	The Procuring Entity shall pay to the Supplier interest on the delayed payments at a rate of: [insert: "% "per annum].
GCC 12.4	The Supplier will invoice the Procuring Entity in the currency used in the Contract Agreement and the Price Schedules it refers to, for Goods and Services supplied locally, and the conversion between this currency and Kenya shillings for payment purposes - in case the two currencies are different - will be made as of the actual payment date using the exchange rate found in [insert: source of exchange rate].

8. Securities (GCC Clause 13)

GCC 13.3.1	<p>The Performance Security shall be denominated in <i>[insert currency]</i>for an amount equal to <i>[insert: number]</i>percent of the Contract Price, excluding any Recurrent Costs.</p> <p><i>[Note: The general rule is that the Performance Security is denominated in the currency or currencies of the contract or in a freely convertible currency acceptable to the Procuring Entity. It should be set as no more than ten (10) percent of the Contract Price, including Recurrent Costs during the Warranty Period. Provision of the Performance Security increases the transaction costs incurred by the successful Tenderer, which it can recover only by increasing its price. Therefore, for a simple/moderate system, Performance Security in an amount of 6-10% of the Contract Price would provide adequate protection].</i></p>
GCC 13.3.4	<p>During the Warranty Period (i.e., after Operational Acceptance of the System), the Performance Security shall be reduced to <i>[insert: number]</i>percent of the Contract Price, excluding any Recurrent Costs.</p> <p><i>[Note: An appropriate amount for the Performance Security for a (three-year) Warranty Period would be between one (1) and two and a half (2.5) percent of the Contract Price including Recurrent Costs for the Warranty period.]</i></p>

D. Intellectual Property

9. Copyright (GCC Clause 15)

GCC 15.3	<p><i>There are no Special Conditions of Contract applicable to GCC Clause 15.3</i></p> <p><i>[Note: If the Procuring Entity is a corporate or commercial entity, it may choose to specify the conditions under which contractual rights would be conveyed to any Procuring Entity of the concern, or any successor entities following a group reorganization or bankruptcy or other insolvency procedures. Procuring Entities with other organizational structures may need to add other similar provisions.]</i></p>
GCC 15.4	<p><i>There are no Special Conditions of Contract applicable to GCC Clause 15.4</i> <i>[Note: There is a broad spectrum of strategies that the Procuring Entity can adopt regarding Intellectual Property Rights in Custom Software (and in Custom Materials). One extreme case is that the Procuring Entity retains all Intellectual Property Rights and tightly restricts what the Supplier can do with the Custom Software and information related to it. This approach may be appropriate when the Procuring Entity has highly sensitive procedures embedded in the Custom Software (e.g., a central bank's settlement system) or commercial competitive concerns regarding wider use of the Software, designs, or information, or where the Procuring Entity considers that it is contributing valuable know-how to the development of the Custom Software and wishes to share in future profits with the Supplier that derives from exploitation of that know-how. The other extreme case is where the Procuring Entity retains no Intellectual Property Rights in the Custom Software and only licenses its use from the Supplier. This approach is most appropriate when the Supplier wants to take advantage of the potential cost reduction in allowing the Supplier to commercialize the Custom Software (rather than sharing in future profits) and where the Procuring Entity has no proprietary or commercial concerns regarding its reuse.</i></p> <p><i>A wide variety of intermediate arrangements can be appropriate, depending on the circumstances. These would entail variations of what the Procuring Entity is entitled to do with the software, designs, and related information (and under what conditions). These rights and obligations include the following: (i) duplicating and using the software on different equipment, such as back-ups, additional computers, replacements, upgraded units, etc.; (ii) transferring the license or sublicensing the software for other entities to use, modify, develop, commercialize, etc.; (iii) sharing proprietary information regarding the Custom Software with various parties. The Procuring Entity's obligations and rights (and the conditions under which those rights and obligations apply) can vary substantially also. These include: (i) what the Procuring Entity must and can do with the CASE files, Source Code, and executable code of the Custom Software; (ii) sharing, reselling, and otherwise providing access to the software, designs and related information; and (iii) auditing for license compliance.</i></p> <p><i>The Supplier's rights in relation to the Custom Software may:</i></p> <p><i>Be limited to use in order to support the Procuring Entity; or</i></p> <ul style="list-style-type: none"> <i>• Extend to commercial exploitation by re-licensing to third-party customers. If the Supplier's rights extend to commercial exploitation, they may be limited as follows:</i> <i>• There may be an interim period, designed to protect the Procuring Entity's competitive edge, during which the Supplier is not permitted to exploit commercially; and/or</i> <i>• The Supplier may be prohibited from licensing the Custom Software to certain categories of customer (for example, direct competitors of the Procuring Entity) or in certain territories (for example, Kenya), either for a limited period or indefinitely; and/or</i>

GCC 13.3.1	<ul style="list-style-type: none"> • <i>The Supplier may be required to pay royalties to the Procuring Entity when it licenses third parties to use the Custom Software.</i> <p><i>The first two of these categories of limitation are intended to protect the Procuring Entity's competitive edge. The third is intended to allow the Procuring Entity to share in future profits made by the Supplier through exploitation of the Custom Software. Royalty arrangements will have to be backed up by obligations to report to the Procuring Entity regarding future sales of products to which royalties apply and audit rights so that the Procuring Entity can check that the Supplier's reports are accurate. Clearly, if royalty arrangements are put in place, the value of the Custom Software to the Supplier is reduced, so the Procuring Entity may not benefit from an up-front cost saving.</i></p> <p><i>The Procuring Entity's rights in relation to the Custom Software may also be restricted to "user" rights or extended to commercial exploitation. If the Procuring Entity is to be treated as a mere user of the Custom Software, it might accept restrictions on use similar to those imposed in relation to the Standard Software (indeed, the default position in the GCC is that the Custom Software will be licensed to the Procuring Entity on exactly the same terms as the Standard Software if the Intellectual Property Rights in the Custom Software does not vest in the Procuring Entity). It may, however, also expect to have access to, and a right to use, CASE files and Source Code to the Custom Software (whereas, at best, Source Code to the Standard Software is likely to be deposited in escrow).</i></p> <p><i>If the Procuring Entity is to be permitted to exploit the Custom Software commercially, its exploitation rights may be limited in similar ways to the ways in which the Procuring Entity's own usage rights to the Custom Software may be limited.</i></p> <p><i>It may be appropriate to apply different arrangements to various elements of the Custom Software, according to their commercial sensitivity and potential for exploitation and the degree of competitive advantage that they afford to the Procuring Entity.</i></p> <p><i>The various possible arrangements can be achieved by a variety of contractual mechanisms. Ownership of Intellectual Property Rights in the Custom Software may vest the Supplier or the Procuring Entity, with the owner of those rights granting an appropriate license to the other party. This license may be subject to various degrees of exclusivity, depending on the desired commercial outcome (for example, the Supplier may own the Intellectual Property Rights in the Custom Software by granting to the Procuring Entity a license that is exclusive, in relation to exploitation in Kenya, for two years).</i></p> <p><i>If an exclusive license is to be granted, competition law issues will need to be considered in some jurisdictions.</i></p> <p><i>Each is sufficiently different as to render virtually all sample text inappropriate in numerous cases. Accordingly, the Procuring Entity of Custom Software will, in most instances, require the services of an appropriately skilled lawyer to draft SCC for the rights and obligations regarding Custom Software (more particularly, the variety of rights and obligations that potentially apply to different items of Custom Software).]</i></p>
GCC 15.5	<p><i>There are no Special Conditions of Contract applicable to GCC Clause 15.5</i></p> <p><i>[Note:</i> <i>Special software escrow arrangements are generally needed in relation to Contracts for the supply of Software, particularly Application Software, where there is concern about the ability of the Supplier to provide ongoing support throughout the life of the System. The protection provided by an escrow arrangement, however, should be weighed against the costs of administering it. The actual language of the escrow contract will vary depending on the laws of the country in which the escrow deposit is to be made (which may be Kenya or another country with a suitable legal regime) and the escrow agent selected (escrow agents generally have their own standard form contracts). Provisions may cover:</i></p> <ul style="list-style-type: none"> <i>(i) the Supplier's obligations to deliver the Source Code to the escrow agent and make replacement deposits to ensure that the Source Code is up to date;</i> <i>(ii) the Supplier's warranties that the Source Code is at all times capable of being used to generate the latest version of the executable code to the relevant Software in use by the Procuring Entity and suitable to enable the Procuring Entity to support and develop the Software;</i> <i>(iii) the escrow agent's obligations to keep the Source Code secure and confidential;</i> <i>(iv) the escrow agent's obligations in relation to verification of the Source Code (to ensure that it is Source Code and that it is capable of generating the executable code);</i>

	<ul style="list-style-type: none"> (v) <i>the obligations of the Supplier and the Procuring Entity in relation to payment of the escrow agent’s fee;</i> (vi) <i>the escrow agent’s right and obligation to release the Source Code to the Procuring Entity in certain specified “release events” (e.g., bankruptcy or insolvency of the Supplier or the Supplier’s failure to make deposits or to support the Software);</i> (vii) <i>limitations and exclusions of the escrow agent’s liability;</i> (viii) <i>the circumstances in which the escrow arrangement will terminate, and what will happen to the deposited Source Code on termination; and</i> (ix) <i>confidentiality undertakings to be given by the Procuring Entity on release of the Source Code.]</i>
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10. Software License Agreements (GCC Clause 16)

GCC 16.1 (a) (iv)	<p><i>There are no Special Conditions of Contract applicable to GCC Clause 16.1 (a) (iv)</i></p> <p><i>[Note: In the interest of soliciting lower Tender prices, Procuring Entities may wish to consider defining limitations in the use of the software. For example:</i></p> <ul style="list-style-type: none"> <i>(a) restrictions on the number of records in particular categories that may be held by the System;</i> <i>(b) restrictions on the numbers of transactions in particular categories that may be processed by the System in any day, week, month, or other specified period;</i> <i>(c) restrictions on the number of persons who may be authorized to use the System at any time;</i> <i>(d) restrictions on the number of persons who may access the System simultaneously at any time; or</i> <i>(e) restrictions on the number of workstations that may be connected to the System at any time.</i> <p><i>Note that, from the point of view of the Procuring Entity, if restrictions of any of these kinds (or any similar kind) are to be imposed and there is a real likelihood that the limits may be reached, it would be better to specify additional license fees that are payable when the limits are reached rather than imposing an absolute prohibition on exceeding the limits.]</i></p>
GCC 16.1 (b) (vi)	<p><i>There are no Special Conditions of Contract applicable to GCC Clause 16.1 (b) (vi)</i></p> <p><i>[Note: The Procuring Entity may also wish to specify, for example, that such entities shall be not direct competitors of the Supplier.]</i></p>
GCC 16.1 (b) (vii)	<p><i>There are no Special Conditions of Contract applicable to GCC Clause 16.1 (b) (vii)</i></p> <p><i>[Note: The Procuring Entity may, for example, wish to specify the members of the Procuring Entity’s business group that are not direct competitors of the Supplier and that the Procuring Entity must obtain and provide the Supplier written evidence from such parties that such parties will adhere by the terms of the Contract as if they were party to the Contract.]</i></p>

GCC 16.2	<p><i>There are no Special Conditions of Contract applicable to GCC Clause 16.2</i></p> <p><i>[Note: If on-site audits are acceptable, the Procuring Entity may specify conditions on the duration and number of audits per year; the hours or days during which audits may be conducted; the categories of software subject to audit; the procedures for access to Procuring Entity's hardware or software; the number and affiliation of individual auditors; the timing and terms of advance notice; the indemnity by Supplier for losses, liabilities, and costs incurred by the Procuring Entity as a direct result of the audit; etc.]</i></p>
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11. Confidential Information (GCC Clause 17)

GCC 17.1	<p><i>There are no Special Conditions of Contract applicable to GCC Clause 17.1</i></p> <p><i>[Note: The Procuring Entity may wish to give members of its business group or related agencies, for example, access to certain specific types of technical and / or financial information it obtains or develops with respect to the Supplier and its Information Technologies. The SCC covering such an exemption should define the individuals covered and generally provide that the Procuring Entity will ensure that such parties are aware of and will adhere by the Procuring Entity's obligations under GCC Clause 17 as if such party were a party to the Contract in place of the Procuring Entity.</i></p> <p><i>if necessary and appropriate, specify: persons, topics, and conditions for which the confidentiality clause does not apply.]</i></p>
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E. Supply, Installation, Testing, Commissioning, and Acceptance of the System

12. Representatives (GCC Clause 18)

GCC 18.1	<p><i>There are no Special Conditions of Contract applicable to GCC Clause 18.1</i></p> <p><i>[Note: If appropriate specify additional powers or limitations.]</i></p> <p>The Procuring Entity's Project Manager shall have the following additional powers and / or limitations to his or her authority to represent the Procuring Entity in matters relating to the Contract <i>[state necessary and appropriate clauses].</i></p>
GCC 18.2.2	<p><i>There are no Special Conditions of Contract applicable to GCC Clause 18.2.2</i></p> <p><i>[Note: If appropriate specify additional powers or limitations.]</i></p> <p>The Supplier's Representative shall have the following additional powers and / or limitations to his or her authority to represent the Supplier in matters relating to the Contract <i>[state necessary and appropriate clauses].</i></p> <p><i>[Note: Any additional powers or limitations of the Supplier's Representative will, of necessity, be subject to discussions at Contract finalization and the SCC amended accordingly.]</i></p>

13. Project Plan (GCC Clause 19)

GCC 19.1	Chapters in the Project Plan shall address the following subject: <ul style="list-style-type: none">(a) Project Organization and Management Sub-Plan, including management authorities, responsibilities, and contacts, as well as task, time and resource-bound schedules (in GANTT format);(b) Implementation Sub-Plan;(c) Training Sub-Plan;(d) Testing and Quality Assurance Sub-Plan;(e) Warranty Defect Repair and Technical Support Service Sub-Plan Further details regarding the required contents of each of the above chapters are contained in the Technical Requirements, (insert: reference)].
GCC 19.6	The Supplier shall submit to the Procuring Entity: <ul style="list-style-type: none">(i) monthly inspection and quality assurance reports(ii) monthly training participants test results(iii) monthly log of service calls and problem resolutions

14. Design and Engineering (GCC Clause 21)

GCC 21.3.1	There are no Special Conditions of Contract applicable to GCC Clause 21.3.1. <i>[Note: If necessary and appropriate, specify the Controlling Technical Documents (i.e., document that must be approved by the Procuring Entity's Project Manager before any relevant downstream work can be undertaken by the Supplier).]</i> <i>[The Supplier shall prepare and furnish to the Project Manager the following documents for which the Supplier must obtain the Project Manager's approval before proceeding with work on the System or any Subsystem covered by the documents. [state "none" or specify, for example:</i> <ul style="list-style-type: none"><i>(*) detailed site surveys;</i><i>(*) final Subsystem configurations;</i><i>(*) etc.</i>
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15. Product Upgrades (GCC Clause 23)

GCC 23.4	There are no Special Conditions of Contract applicable to GCC Clause 23.4. <i>[Note: Mandating that all new versions, releases, and updates of Standard Software will be passed on for free during the Warranty Period is a comprehensive requirement, the benefits of which must be balanced against the perceived costs in the mind of the successful Tenderer at the time of tender submission. To require the Supplier to provide for free only new releases and updates, but agreeing that it would be reimbursed for the supply of complete new versions might be more cost-effective. For example, this may be particularly appropriate when the Procuring Entity would not benefit from costs of migrating its business applications to an entirely new version of the underlying database system if such a version came out during a three Warranty Period. Another approach may be to shorten the time period during which updates, etc., would have to be supplied for free, for example, to only the first year of the Warranty Period; or alternatively, a narrower set of Standard Software could be covered.]</i>
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SECTION VIII - CONTRACT FORMS

Notes to the Procuring Entity on preparing the Contract Forms.

Performance Security: Pursuant to GCC Clause 13.3, the successful Tenderer is required to provide the Performance Security within twenty-eight (28) days of notification of Contract award.

Advance Payment Security: Pursuant to Clause 13.2, the successful Tenderer is required to provide a bank guarantee securing the Advance Payment, if the SCC related to GCC Clause 12.1 provides for an Advance Payment.

Installation and Operational Acceptance Certificates: Recommended formats for these certificates are included in this SPD. Unless the Procuring Entity has good reason to require procedures that differ from those recommended, or to require different wording in the certificates, the procedures and forms shall be included unchanged. If the Procuring Entity wishes to amend the recommended procedures and/or certificates, it may do so before release of the tendering document to potential Tenderers.

Change Order Procedures and Forms: Similar to the Installation and Operational Acceptance Certificates, the Change Estimate Proposal, Estimate Acceptance, Change Proposal, Change Order, and related Forms should be included in the tendering document unaltered. If the Procuring Entity wishes to amend the recommended procedures and/or certificates, it may do so before release of the tendering document.

Notes to Tenderers on working with the Sample Contractual Forms

The following forms are to be completed and submitted by the successful Tenderer following notification of award: (i) Contract Agreement, with all Appendices; (ii) Performance Security; and (iii) Advance Payment Security.

Contract Agreement: In addition to specifying the parties and the Contract Price, the Contract Agreement is where the:

(i) Supplier Representative; (ii) if applicable, agreed Adjudicator and his/her compensation; and (iii) the List of Approved Subcontractors are specified. In addition, modifications to the successful Tenderer's Tender Price Schedules are attached to the Agreement. These contain corrections and adjustments to the Supplier's tender prices to correct errors, adjust the Contract Price to reflect - if applicable - any extensions to tender validity beyond the last day of original tender validity plus 56 days, etc.

Performance Security: Pursuant to GCC Clause 13.3, the successful Tenderer is required to provide the Performance Security in the form contained in this section of these tendering documents and in the amount specified in accordance with the SCC.

Advance Payment Security: Pursuant to GCC Clause 13.2, the successful Tenderer is required to provide a bank guarantee for the full amount of the Advance Payment - if an Advance Payment is specified in the SCC for GCC Clause

12.1 - in the form contained in this section of these tendering documents or another form acceptable to the Procuring Entity. If a Tenderer wishes to propose a different Advance Payment Security form, it should submit a copy to the Procuring Entity promptly for review and confirmation of acceptability before the tender submission deadline.

The Procuring Entity and Supplier will use the following additional forms during Contract implementation to formalize or certify important Contract events: (i) the Installation and Operational Acceptance Certificates; and (ii) the various Change Order forms. These and the procedures for their use during performance of the Contract are included in the tendering documents for the information of Tenderers.

1. Notification of Intention to Award

[This Notification of Intention to Award shall be sent to each Tenderer that submitted a Tender.]

[Send this Notification to the Tenderer's Authorized Representative named in the Tenderer Information Form]

For the attention of Tenderer's Authorized Representative Name:

..... [insert Authorized Representative's name]

Address: [insert Authorized Representative's Address]

Telephone/Fax numbers: [insert Authorized Representative's telephone/fax numbers]

Email Address: [insert Authorized Representative's email address]

[IMPORTANT: insert the date that this Notification is transmitted to all participating Tenderers. The Notification must be sent to all Tenderers simultaneously. This means on the same date and as close to the same time as possible.]

DATE OF TRANSMISSION:This Notification is sent by: [email/fax] on[date](local time)
Notification of Intention to Award

[Procuring Entity]: [insert the name of the Procuring Entity]

Project:[insert name of project]

Contract title: [insert the name of the contract]

Country:[insert country where ITT is issued]

ITT No: [insert ITT reference number from Procurement Plan]

This Notification of Intention to Award (Notification) notifies you of our decision to award the above contract. The transmission of this Notification begins the Standstill Period. During the Standstill Period you may:

- a) Request a debriefing in relation to the evaluation of your Tender, and/ or
- b) Submit a Procurement-related Complaint in relation to the decision to award the contract.

i) The successful Tenderer

	[insert address of the successful Tenderer]
	[insert contract price of the successful Tenderer]
Total combined score:	-
	[insert the total combined score of the successful Tenderer]

1. Other Tenderers [INSTRUCTIONS: insert names of all Tenderers that submitted a Tender. If the Tender's price was evaluated include the evaluated price as well as the Tender price as read out.]

Name of Tenderer	Technical Score (If applicable)	Tender price	Evaluated Tender Cost	Combined Score (if applicable)
[insert name]	[insert Technical score]	[insert Tender price]	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

1. Reason/s why your Tender was unsuccessful [*Delete if the combined score already reveals the reason*]

[INSTRUCTIONS; State the reason/s why this Tenderer's Tender was unsuccessful. Do NOT include: (a) a point by point comparison with another Tenderer's Tender or (b) information that is marked confidential by the Tenderer in its Tender.]

a) How to request a debriefing

DEADLINE: The deadline to request a debriefing expires at midnight on [insert date] (local time).

You may request a debriefing in relation to the results of the evaluation of your Tender. If you decide to request a debriefing your written request must be made within three (3) Business Days of receipt of this Notification of Intention to Award.

Provide the contract name, reference number, name of the Tenderer, contact details; and address the request for debriefing as follows:

Attention: [insert full name of person, if applicable] **Title/position:** _____ [insert title/position]

Agency: [insert name of Procuring Entity] **Email address:** _____ [insert email address] **Fax number:** _____ [insert fax number] **delete if not used**

If your request for a debriefing is received within the 3 Business Days deadline, we will provide the debriefing within five (5) Business Days of receipt of your request. If we are unable to provide the debriefing within this period, the Standstill Period shall be extended by five (5) Business Days after the date that the debriefing is provided. If this happens, we will notify you and confirm the date that the extended Standstill Period will end.

The debriefing may be in writing, by phone, video conference call or in person. We shall promptly advise you in writing how the debriefing will take place and confirm the date and time.

If the deadline to request a debriefing has expired, you may still request a debriefing. In this case, we will provide the debriefing as soon as practicable, and normally no later than fifteen (15) Business Days from the date of publication of the Contract Award Notice.

b) **How to make a complaint**

DEADLINE: The deadline for submitting a Procurement-related Complaint challenging the decision to award the contract expires on midnight, [insert date] (local time).

Provide the contract name, reference number, name of the Tenderer, contact details; and address the Procurement- related Complaint as follows:

Attention: [insert full name of person, if applicable] **Title/position:** _____[insert title/position]

Agency: [insert name of Procuring Entity] **Email address:** _____[insert email address]

At this point in the procurement process, you may submit a Procurement-related Complaint challenging the decision to award the contract. You do not need to have requested, or received, a debriefing before making this complaint. Your complaint must be submitted within the Standstill Period and received by us before the Standstill Period ends. Further information:

For more information refer to the Public Procurement and Disposals Act 2015 and its Regulations available from the Website info@ppra.go.ke or complaints@ppra.go.ke.

In summary, there are four essential requirements:

- a) You must be an 'interested party'. In this case, that means a Tenderer who submitted a Tender in this procurement, and is the recipient of a Notification of Intention to Award.
- b) The complaint can only challenge the decision to award the contract.
- c) You must submit the complaint within the deadline stated above.
- d) You must include, in your complaint, all of the information required by the Procurement Regulations (as described in Annex III).

e) **Standstill Period**

DEADLINE: The Standstill Period is due to end at midnight on [insert date] (local time).

The Standstill Period lasts ten (10) Business Days after the date of transmission of this Notification of Intention to Award.

The Standstill Period may be extended. This may happen where we are unable to provide a debriefing within the five (5) Business Day deadline. If this happens we will notify you of the extension.

If you have any questions regarding this Notification please do not hesitate to contact us. On behalf of the Procuring Entity:

Signature: _____

Name: _____

Title/position: _____

Telephone: _____

Email: _____

a) Notification of Award-Form of Acceptance

_____) _____

To: _____

This is to notify you that your Tender dated _____ for execution of the _____ for the Contract Price in the aggregate of _____, as corrected and modified in accordance with the Instructions to Tenderers is here by accepted by our Agency.

You are requested to furnish the Performance Security within 28 days in accordance with the Conditions of Contract, using for that purpose one of the Performance Security Forms included in Section X, - Contract Forms, of the Tendering Document.

Authorized Signature: _____

Name and Title of Signatory: _____

Name of Agency: _____

Attachment: Contract Agreement

b) **Contract Agreement**

THIS CONTRACT AGREEMENT is made on the*[insert: ordinal]* day of *[insert: month]*, *[insert: year]*. BETWEEN (1) *[insert: Name of Procuring Entity]*, a *[insert: description of type of legal entity, for example, an agency of the Department of.....]* of the Government of Kenya, or corporation incorporated under the laws of Kenya and having its principal place of business at *[insert: address of Procuring Entity]* (here in after called "the Procuring Entity"), and (2).....*[insert: name of Supplier]*, a corporation incorporated under the laws of *[insert: country of Supplier]* and having its principal place of business at *[insert: address of Supplier]* (here in after called "the Supplier").

WHEREAS the Procuring Entity desires to engage the Supplier to supply, install, achieve Operational Acceptance of, and support the following Information System *[insert: brief description of the Information System]* ("the System"), and the Supplier has agreed to such engagement upon and subject to the terms and conditions appearing below in this Contract Agreement.

NOW IT IS HERE BY AGREED as follows:

Article 1. Contract Documents

a) Contract Documents (Reference GCC Clause 1.1(a) (ii))

The following documents shall constitute the Contract between the Procuring Entity and the Supplier, and each shall be read and construed as an integral part of the Contract:

1. This Contract Agreement and the Appendices attached to the Contract Agreement
2. Special Conditions of Contract
3. General Conditions of Contract
4. Technical Requirements (including Implementation Schedule)
5. The Supplier's tender and original Price Schedules
6. *[Add here: any other documents]*

1.2 Order of Precedence (Reference GCC Clause 2)

In the event of any ambiguity or conflict between the Contract Documents listed above, the order of precedence shall be the order in which the Contract Documents are listed in Article 1.1 (Contract Documents) above, provided that Appendix 7 shall prevail over all provisions of the Contract Agreement and the other Appendices attached to the Contract Agreement and all the other Contract Documents listed in Article 1.1 above.

1.3 Definitions (Reference GCC Clause 1)

Capitalized words and phrases used in this Contract Agreement shall have the same meanings as prescribed to them in the General Conditions of Contract.

Article 2.

Contract Price and Terms of Payment

- 2.1 Contract Price (Reference GCC Clause 1.1(a)(viii) and GCC Clause 11) The Procuring Entity here by agrees to pay to the Supplier the Contract Price in consideration of the performance by the Supplier of its obligations under the Contract. The Contract Price shall be the aggregate of: [*insert: amount of foreign currency A in words*], *[insert: amount in figures]*, plus *[insert: amount of foreign currency B in words]*, *[insert: amount in figures]*, plus *[insert: amount of foreign currency C in words]*, *[insert: amount in figures]*, *[insert: amount of local currency in words]*, *[insert: amount in figures]*, as specified in the Grand Summary Price Schedule.

The Contract Price shall be understood to reflect the terms and conditions used in the specification of prices in the detailed price schedules, including the terms and conditions of the associated incoterms, and the taxes,

duties and related levies if and as identified.

Article 3.

Effective Date for Determining Time for Operational Acceptance

i. Effective Date (Reference GCC Clause 1.1(e) (ix))

The time allowed for supply, installation, and achieving Operational Acceptance of the System shall be determined from the date when all of the following conditions have been fulfilled:

- i. This Contract Agreement has been duly executed for and on behalf of the Procuring Entity and the Supplier;
- ii. The Supplier has submitted to the Procuring Entity the performance security and the advance payment security, in accordance with GCC Clause 13.2 and GCC Clause 13.3;
 - 1. The Procuring Entity has paid the Supplier the advance payment, in accordance with GCC Clause 12; Each party shall use its best efforts to fulfill the above conditions for which it is responsible as soon as practicable.
- iii. If the conditions listed under 3.1 are not fulfilled within two (2) months from the date of this Contract Agreement because of reasons not attributable to the Supplier, the parties shall discuss and agree on an equitable adjustment to the Contract Price and the Time for Achieving Operational Acceptance and/or other relevant conditions of the Contract.

Article 4.

Appendixes

- i. The Appendixes listed below shall be deemed to form an integral part of this Contract Agreement.
- ii. Reference in the Contract to any Appendix shall mean the Appendixes listed below and attached to this Contract Agreement, and the Contract shall be read and construed accordingly.

APPENDIXES

Appendix 1. Supplier's Representative

Appendix 2. Adjudicator *[If there is no Adjudicator, state "not applicable"]*

Appendix 3. List of Approved Subcontractors

Appendix 4. Categories of Software

Appendix 5. Custom Materials

Appendix 6. Revised Price Schedules (if any)

Appendix 7. Minutes of Contract Finalization Discussions and Agreed-to Contract Amendments

IN WITNESS WHEREOF the Procuring Entity and the Supplier have caused this Agreement to be duly executed by their duly authorized representatives the day and year first above written.

1. For and on behalf of the Procuring Entity

Signed:

in the capacity of *[insert: title or other appropriate designation]*

in the presence of _____

2. For and on behalf of the Supplier

Signed:

in the capacity of *[insert: title or other appropriate designation]*

in the presence of _____

b) **Appendices**

i. **Appendix 1. Supplier's Representative**

In accordance with GCC Clause 1.1 (b) (iv), the Supplier's Representative is:

Name:[*insert: name and provide title and address further below, or state "to be nominated within fourteen (14) days of the Effective Date"*]

Title:[*if appropriate, insert: title*]

In accordance with GCC Clause 4.3, the Supplier's addresses for notices under the Contract are:

Address of the Supplier's Representative:[***as appropriate, insert: personal delivery, postal, cable, facsimile, electronic mail, and/or EDI addresses.***]

Fallback address of the Supplier:[***as appropriate, insert: personal delivery, postal, cable, facsimile, electronic mail, and/or EDI addresses.***]

ii. Appendix

2. Adjudicator in accordance with GCC Clause 1.1 (b) (vi), the agreed-upon Adjudicator is: Name:

..... **[insert: name]** Title:

[insert: title] Address: **[insert: postal address]** Telephone:

..... **[insert: telephone]** in accordance with GCC Clause 43.1.3, the

agreed-upon fees and reimbursable expenses are: Hourly Fees:

[insert: hourly fees] Reimbursable Expenses: **[list: reimbursables]**

Pursuant to GCC Clause 43.1.4, if at the time of Contract signing, agreement has not been reached between the Procuring Entity and the Supplier, an Adjudicator will be appointed by the Appointing Authority named in the SCC.

iii. Appendix 3. List of Approved Subcontractors

The Procuring Entity has approved use of the following Subcontractors nominated by the Supplier for carrying out the item or component of the System indicated. Where more than one Subcontractor is listed, the Supplier is free to choose between them, but it must notify the Procuring Entity of its choice sufficiently in advance of the time when the subcontracted work needs to commence to give the Procuring Entity reasonable time for review. In accordance with GCC Clause 20.1, the Supplier is free to submit proposals for Subcontractors for additional items from time to time. No subcontracts shall be placed with any such Subcontractors for additional items until the Subcontractors have been approved in writing by the Procuring Entity and their names have been added to this list of Approved Subcontractors, subject to GCC Clause 20.3.

[specify: item, approved Subcontractors, and their place of registration that the Supplier proposed in the corresponding attachment to its tender and that the Procuring Entity approves that the Supplier engage during the performance of the Contract. Add additional pages as necessary.]

<input type="text"/>	<input type="text"/>	<input type="text"/>

vi. Appendix 6. Revised Price Schedules

The attached Revised Price Schedules (if any) shall form part of this Contract Agreement and, where differences exist, shall supersede the Price Schedules contained in the Supplier's Tender. These Revised Price Schedules reflect any corrections or adjustments to the Supplier's tender price, pursuant to the ITT Clauses 30.3 and 38.2.

vii. Appendix 7. Minutes of Contract Finalization Discussions and Agreed-to Contract Amendments

The attached Contract amendments (if any) shall form part of this Contract Agreement and, where differences exist, shall supersede the relevant clauses in the GCC, SCC, Technical Requirements, or other parts of this Contract as defined in GCC Clause 1.1 (a) (ii).

c) **Performance and Advance Payment Security Forms**

5.1 Performance Security Form (Demand Bank Guarantee)

[The bank, as requested by the successful Tenderer, shall fill in this form in accordance with the instructions indicated]

[Guarantor Form head or SWIFT identifier code]

*[insert: **Bank's Name, and Address of Issuing Branch or Office**]*

Beneficiary: *[insert: **Name and Address of Procuring Entity**]*

Date: *[insert: **date**]*

PERFORMANCE GUARANTEE No.: *[insert: **Performance Guarantee Number**]* **Guarantor:**
..... *[Insert name and address of place of issue, unless indicated in the Form head.]*

We have been informed that on *[insert: **date of award**]* you awarded Contract No. *[insert: **Contract number**]* for *[insert: **title and/or brief description of the Contract**]* (hereinafter called "the Contract") to *[insert: **complete name of Supplier which in the case of a joint venture shall be in the name of the joint venture**]* (hereinafter called "the Applicant"). Furthermore, we understand that, according to the conditions of the Contract, a performance guarantee is required.

At the request of the Applicant, we as Guarantor here by irrevocably undertake to pay you any sum(s) not exceeding *[insert: **amount(s)¹ in figures and words**]* such sum being payable in the types and proportions of currencies which the Contract Price is payable upon receipt by us of the Beneficiary's statement, whether in the demand itself or in a separate signed document accompanying or identifying the demand, stating that the Applicant is in breach of its obligation(s) under the contract without the Beneficiary needing to prove or to show grounds or reasons for their demand or the sum specified there in.

On the date of your issuing, to the Supplier, the Operational Acceptance Certificate for the System, the value of this guarantee will be reduced to any sum(s) not exceeding..... *[insert: **amount(s) 4 in figures and words**]*. This remaining guarantee shall expire no later than.....*[insert: **number and select: of months/of years (of the Warranty Period that needs to be covered by the remaining guarantee)]*** from the date of the Operational Acceptance Certificate for the System², and any demand for payment under it must be received by us at this office on or before that date.

This guarantee is subject to the Uniform Rules for Demand Guarantees, (URDG) 2010 Revision, ICC Publication No. 758, except that the supporting statement under 15 (a) is hereby excluded.

[Signature(s)]

Note: All italicized text (including footnotes) is for use in preparing this form and shall be deleted from the final product.

5.2 Advance Payment Security

Demand Bank Guarantee

[Guarantor Form head or SWIFT identifier code]

Beneficiary: *[insert: Name and Address of Procuring Entity]*

Date: *[insert date of issue]*

ADVANCE PAYMENT GUARANTEE No.: *[insert: Advance Payment Guarantee Number]*

Guarantor: *[Insert name and address of place of issue, unless indicated in the Form head]*

We have been informed that on.....*[insert: date of award]* you awarded Contract No. *[insert: Contract number]* for*[insert: title and/or brief description of the Contract]* (here in after called "the Contract") to *[insert: complete name of Supplier, which in the case of a joint venture shall be the name of the joint venture]* (here in after called" the Applicant").

Furthermore, we understand that, according to the conditions of the Contract, an advance payment in the sum of *[insert: amount in numbers and words, for each currency of the advance payment]* is to be made to the Supplier against an advance payment guarantee.

At the request of the Applicant, we as Guarantor, here by irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of.....*[insert amount in figures] () [insert amount in words]*¹ upon receipt by us of the Beneficiary's complying demand supported by the Beneficiary's statement, whether in the demand itself or in a separate signed document accompanying or identifying the demand, stating either that the Applicant:

- a) Has used the advance payment for purposes other than toward delivery of Goods; or
- b) has failed to repay the advance payment in accordance with the Contract conditions, specifying the amount which the Applicant has failed to repay.

A demand under this guarantee may be presented as from the presentation to the Guarantor of a certificate from the Beneficiary's bank stating that the advance payment referred to above has been credited to the Applicant on its account number.....*[insert number]*at.....*[insert name and address of Applicant's bank]*.

The maximum amount of this guarantee shall be progressively reduced by the amount of the advance payment repaid by the Applicant as specified in copies of interim statements or payment certificates which shall be presented to us. This guarantee shall expire, at the latest, upon our receipt of a copy of the interim payment certificate indicating that ninety

(90) percent of the Accepted Contract Amount, has been certified for payment, or on the.....*[insert day]* day of.....*[insert month]*, 2 *[insert year]*, whichever is earlier. Consequently, any demand for payment under this guarantee must be received by us at this office on or before that date.

This guarantee is subject to the Uniform Rules for Demand Guarantees (URDG) 2010 Revision, ICC Publication No.758, except that the supporting statement under Article 15(a) is hereby excluded.

[signature(s)]

Note: All italicized text (including footnotes) is for use in preparing this form and shall be deleted from the final product.

c) **Installation and Acceptance Certificates** *(insert format)*

i. Installation Certificate

Date: ***[insert: date]***

ITT: ***[insert: title and number of ITT]***

Contract: ***[insert: name and number of Contract]***

To: ***[insert: name and address of Supplier]***

Dear Sir or Madam:

Pursuant to GCC Clause 26 (Installation of the System) of the Contract entered into between yourselves and the..... ***[insert: name of Procuring Entity]*** (hereinafter the “Procuring Entity”) dated..... ***[insert: date of Contract]***, relating to the.....***[insert: brief description of the Information System]***, we hereby notify you that the System (or a Subsystem or major component thereof) was deemed to have been correctly installed on the date specified below.

1. Description of the System (or relevant Subsystem or major component: ***[insert: description]***
2. Date of Installation: ***[insert: date]***

Notwithstanding the above, you are required to complete the outstanding items listed in the attachment to this certificate as soon as practicable. This Form shall not relieve you of your obligation to achieve Operational Acceptance of the System in accordance with the Contract nor of your obligations during the Warranty Period.

For and on behalf of the Procuring Entity

Signed:

Date:

in the capacity of:***[state: “Project Manager” or state the title of a higher-level authority in the Procuring Entity's organization]***

i. Operational Acceptance Certificate

Date:[insert: date]

ITT:[insert: title and number of ITT]

Contract:[insert: name of System or Subsystem and number of Contract]

To:[insert: name and address of Supplier]

Dear Sir or Madam:

Pursuant to GCC Clause 27 (Commissioning and Operational Acceptance) of the Contract entered into between yourselves and the.....[insert: name of Procuring Entity] (hereinafter the “Procuring Entity”) dated..... [insert: date of Contract], relating to the.....[insert: brief description of the Information System], we hereby notify you the System (or the Subsystem or major component identified below) successfully completed the Operational Acceptance Tests specified in the Contract. In accordance with the terms of the Contract, the Procuring Entity here by takes over the System (or the Subsystem or major component identified below), together with the responsibility for care and custody and the risk of loss thereof on the date mentioned below.

- a) Description of the System (or Subsystem or major component):[insert: description]
- b) Date of Operational Acceptance:[insert: date]

This Form shall not relieve you of your remaining performance obligations under the Contract nor of your obligations during the Warranty Period.

For and on behalf of the Procuring Entity

Signed:

Date:

in the capacity of:[state: “Project Manager” or higher-level authority in the Procuring Entity's organization]

7. Change Order Procedures and Forms

Date:[insert: date]

ITT:[insert: title and number of ITT]

Contract:[insert: name or System or Subsystem and number of Contract]

General

This section provides samples of procedures and forms for carrying out changes to the System during the performance of the Contract in accordance with GCC Clause 39 (Changes to the System) of the Contract.

Change Order Log

The Supplier shall keep an up-to-date Change Order Log to show the current status of Requests for Change and Change Orders authorized or pending. Changes shall be entered regularly in the Change Order Log to ensure that the log is kept up-to-date. The Supplier shall attach a copy of the current Change Order Log in the monthly progress report to be submitted to the Procuring Entity.

References to Changes

- a) Request for Change Proposals (including Application for Change Proposals) shall be serially numbered CR-nnn.
- b) Change Estimate Proposals shall be numbered CN-nnn.
- c) Estimate Acceptances shall be numbered CA-nnn.
- d) Change Proposals shall be numbered CP-nnn.
- e) Change Orders shall be numbered CO-nnn. On all forms, the numbering shall be determined by the original CR-nnn.

Annexes

- | | | |
|------|-----|--------------------------------------|
| i. | 7.1 | Request for Change Proposal Form |
| ii. | 7.2 | Change Estimate Proposal Form |
| iii. | 7.3 | Estimate Acceptance Form |
| iv. | 7.4 | Change Proposal Form |
| v. | 7.5 | Change Order Form |
| vi. | 7.6 | Application for Change Proposal Form |

i. Request for Change Proposal Form

(Procuring Entity's Form head)

Date:[insert: date]

ITT:[insert: title and number of ITT]

Contract:[insert: name of System or Subsystem or number of Contract]

To:[insert: name of Supplier and address]

Attention:[insert: name and title]

Dear Sir or Madam:

With reference to the above-referenced Contract, you are requested to prepare and submit a Change Proposal for the Change noted below in accordance with the following instructions within **[insert: number]** days of the date of this Form.

- a) Title of Change: **[insert: title]**
- b) Request for Change No./Rev.: **[insert: number]**
- c) Originator of Change: **[select Procuring Entity / Supplier (by Application for Change Proposal), and add: name of originator]**
- d) Brief Description of Change: **[insert: description]**
- e) System (or Subsystem or major component affected by requested Change): **[insert: description]**
- f) Technical documents and/ or drawings for the request of
Change: Document or Drawing No. Description
- g) Detailed conditions or special requirements of the requested Change: **[insert: description]**
- h) Procedures to be followed:
 - i. Your Change Proposal will have to show what effect the requested Change will have on the Contract Price.
 - ii. Your Change Proposal shall explain the time it will take to complete the requested Change and the impact, if any, it will have on the date when Operational Acceptance of the entire System agreed in the Contract.
 - iii. If you believe implementation of the requested Change will have a negative impact on the quality, operability, or integrity of the System, please provide a detailed explanation, including other approaches that might achieve the same impact as the requested Change.
 - iv. You should also indicate what impact the Change will have on the number and mix of staff needed by the Supplier to perform the Contract.
 - v. You shall not proceed with the execution of work related to the requested Change until we have accepted and confirmed the impact it will have on the Contract Price and the Implementation Schedule in writing.
- i) As next step, please respond using the Change Estimate Proposal form, indicating how much it will cost you to prepare a concrete Change Proposal that will describe the proposed approach for implementing the Change, all its elements, and will also address the points in paragraph 8 above pursuant to GCC Clause 39.2.1. Your Change Estimate Proposal should contain a first approximation of the proposed approach, and implications for schedule and cost, of the Change.

For and on behalf of the Procuring Entity

Signed:

Date:

in the capacity of:[***state: "Project Manager" or higher-level authority in the Procuring Entity's organization***]

i. Change Estimate Proposal Form

(Supplier's Form head)

Date:[insert: date]

ITT:[insert: title and number of ITT]

Contract:[insert: name of System or Subsystem and number of Contract]

To:[insert: name of Procuring Entity and address]

Attention: [insert: name and title]

Dear Sir or Madam:

With reference to your Request for Change Proposal, we are pleased to notify you of the approximate cost of preparing the below-referenced Change in accordance with GCC Clause 39.2.1 of the Contract. We acknowledge that your agreement to the cost of preparing the Change Proposal, in accordance with GCC Clause 39.2.2, is required before we proceed to prepare the actual Change Proposal including a detailed estimate of the cost of implementing the Change itself.

1. Title of Change:[insert: title]

2. Request for Change No./Rev.:[insert: number]

a) Brief Description of Change (including proposed implementation approach):[insert: description]

b) Schedule Impact of Change (initial estimate):[insert: description]

c) Initial Cost Estimate for Implementing the Change:[insert: initial cost estimate]

d) Cost for Preparation of Change Proposal:[insert: cost in the currencies of the Contract], as detailed below in the breakdown of prices, rates, and quantities.

For and on behalf of the Supplier Signed:

.....

Date:

in the capacity of:[state: "Supplier's Representative" or other higher-level authority in the Supplier's organization]

i. Estimate Acceptance Form

(Procuring Entity's Form head) Date:[insert: date]

ITT.....[insert: title and number of ITT]

Contract:[insert: name of System or Subsystem and number of Contract]

To:[insert: name of Supplier and address]

Attention:[insert: name and title]

Dear Sir or Madam:

We hereby accept your Change Estimate and agree that you should proceed with the preparation of a formal Change Proposal.

- a) Title of Change: [insert: title]
- b) Request for Change No./ Rev.: [insert: request number /revision]
- c) Change Estimate Proposal No./ Rev.: [insert: proposal number/ revision]
- d) Estimate Acceptance No./ Rev.: [insert: estimate number/ revision]
- e) Brief Description of Change: [insert: description]
- f) Other Terms and Conditions:

In the event that we decide not to order the Change referenced above, you shall be entitled to compensation for the cost of preparing the Change Proposal up to the amount estimated for this purpose in the Change Estimate Proposal, in accordance with GCC Clause 39 of the General Conditions of Contract.

For and on behalf of the Procuring Entity

Signed:

Date:

in the capacity of:[state: "Project Manager" or higher-level authority in the Procuring Entity's organization]

i. Change Proposal Form

(Supplier's Form head)

Date:[insert: date]

ITT:[insert: title and number of ITT]

Contract:[insert: name of System or Subsystem and number of Contract]

To:[insert: name of Procuring Entity and address]

Attention:[insert: name and title]

Dear Sir or Madam:

In response to your Request for Change Proposal No. [insert: number], we here by submit our proposal as follows:

- a) Title of Change: [insert: name]
- b) Change Proposal No./ Rev.: [insert: proposal number /revision]
- c) Origin at or of Change: [select: Procuring Entity /Supplier; and add: name]
- d) Brief Description of Change: [insert: description]
- e) Reasons for Change: [insert: reason]
- f) The System Subsystem, major component, or equipment that will be affected by the requested Change: [insert: description]
- g) Technical documents and/ or drawings for the requested Change: Document or Drawing No. Description
- h) Estimate of the increase/ decrease to the Contract Price resulting from the proposed Change: [insert: amount in currencies of Contract], as detailed below in the breakdown of prices, rates, and quantities.
Total lump sum cost of the Change:
Cost to prepare this Change Proposal (i. e., the amount payable if the Change is not accepted, limited as provided by GCC Clause 39.2.6):
- i) Additional Time for Achieving Operational Acceptance required due to the Change: [insert: amount in days/ weeks]
- j) Effect on the Functional Guarantees: [insert: description]
- k) Effect on the other terms and conditions of the Contract: [insert: description]
- l) Validity of this Proposal: for a period of[insert: number] days after receipt of this Proposal by the Procuring Entity
- m) Procedures to be followed:
 - i. You are requested to notify us of your acceptance, comments, or rejection of this detailed Change Proposal within.....[insert: number] days from your receipt of this Proposal.
 - ii. The amount of any increase and / or decrease shall be taken into account in the adjustment of the

Contract Price.

For and on behalf of the Supplier

Signed:

Date:

in the capacity of: *[state: "Supplier's Representative" or other higher-level authority in the Supplier's organization]*

iii. Change Order Form

(Procuring Entity's Form head)

Date:**[insert: date]**

ITT:**[insert: title and number of ITT]**

Contract:**[insert: name of System or Subsystem and number of Contract]**

To:**[insert: name of Supplier and address]**

Attention:**[insert: name and title]**

Dear Sir or Madam:

We hereby approve the Change Order for the work specified in Change Proposal No. **[insert: number]**, and agree to adjust the Contract Price, Time for Completion, and/ or other conditions of the Contract in accordance with GCC Clause 39 of the Contract.

- a) Title of Change: **[insert: name]**
- b) Request for Change No./ Rev.: **[insert: request number/ revision]**
- c) Change Order No./ Rev.: **[insert: order number/ revision]**
- d) Origin at or of Change: **[select: Procuring Entity / Supplier; and add: name]**
- e) Authorized Price for the Change: Ref. No.: **[insert: number]** Date: **[insert: date]**
[insert: amount in foreign currency A] plus [insert: amount in foreign currency B] plus [insert: amount in foreign currency C] plus [insert: amount in local currency]
- f) Adjustment of Time for Achieving Operational Acceptance: **[insert: amount and description of adjustment]**
- g) Other effects, if any: **[state: "none" or insert description]**

For and on behalf of the Procuring Entity

Signed:

Date:

in the capacity of:**[state: "Project Manager" or higher-level authority in the Procuring Entity's organization]**

For and on behalf of the Supplier

Signed:

Date:

in the capacity of:**[state "Supplier's Representative" or higher-level authority in the Supplier's organization]**

i. Application for Change Proposal Form

(Supplier's Form head)

Date:[insert: date]

ITT:[insert: title and number of ITT]

Contract:[insert: name of System or Subsystem and number of Contract]

To:[insert: name of Procuring Entity and address]

Attention:[insert: name and title]

Dear Sir or Madam:

We hereby propose that the below-mentioned work be treated as a Change to the System.

- 1. Title of Change:[insert: name]
- a) Application for Change Proposal No./ Rev.:[insert: number/ revision] dated: [insert: date]
- b) Brief Description of Change:[insert: description]
- c) Reasons for Change:[insert: description]
- d) Order of Magnitude Estimation:[insert: amount in currencies of the Contract]
- e) Schedule Impact of Change:[insert: description]
- f) Effect on Functional Guarantees, if any:[insert: description]
- g) Appendix:[insert: titles (if any); otherwise state "none"]

For and on behalf of the Supplier

Signed:

Date:

in the capacity of:[state: "Supplier's Representative" or higher-level authority in the Supplier's organization.

MANDATORY PRE-BID ATTENDANCE FORM

(TO BE RETURNED DULY SIGNED AND STAMPED WITH TENDER DOCUMENT)

SUPPLY, DELIVERY, REMODELING AND MODERNIZATION OF DATACENTER, UPGRADE OF LAN, EXTENSION OF WIFI/CCT COVERAGE AND INSTALLATION OF CLEAN POWER FOR ICT LABORATORY AT EASA

TENDER NUMBER KCAA/045/2022-2023.

THIS IS TO CONFIRM THAT ----- (COMPANY NAME)
ATTENDED A MANDATORY PRE-BID MEETING AT EAST AFRICAN SCHOOL OF AVIATION

COMPANY REPRESENTATIVE

NAME -----

DESIGNATION-----

SITE VISITED- **EAST AFRICAN SCHOOL OF AVIATION**

SIGNED -----

DATE -----

KCAA REPRESENTATIVE

NAME -----

DESIGNATION-----

SIGNED -----

DATE -----

OFFICIAL KCAA STAMP