

## APPENDIX II

### **RE: ADDENDUM NO.5 TENDER DOCUMENT PROPOSED DESIGN, SUPPLY, INSTALLATION AND COMMISSIONING OF ELECTRONIC SECURITY SYSTEMS IN SELECTED SUBSTATIONS, COMMERCIAL OFFICES & DEPOTS COMPANYWIDE. TENDER NO. KP1/9A.2/OT/032/SS/23-24**

#### (a) Specifications

- (i) 16 CHANNEL NVR SPECIFICATIONS COMPLETE WITH VIDEO MANAGEMENT SOFTWARE should be as specified in the tender document or equivalent
- (ii) Biometric access control and cards

### **SECTION VI - TECHNICAL SPECIFICATIONS**

#### **EMBEDDED 16 CHANNEL NVR SPECIFICATIONS COMPLETE WITH VIDEO MANAGEMENT SOFTWARE**

Feature	Technical Specification	Bidder's Response Yes/No
<b>EMBEDDED NVR SPECIFICATIONS COMPLETE WITH VIDEO MANAGEMENT SOFTWARE</b>		
<b>IP Video Input</b>	<ul style="list-style-type: none"><li>16 video and 16 Access control door pre-licensed</li></ul>	
<b>Video Compression</b>	<ul style="list-style-type: none"><li>H.264 video compression</li></ul>	
<b>OS</b>	<ul style="list-style-type: none"><li>2 x 120 GB SSD RAID-1 configuration</li><li>Installed on windows server</li></ul>	
<b>Installation</b>	<ul style="list-style-type: none"><li>Wizard-based set-up and centralized configuration.</li><li>All components to be pre-installed and pre-licensed</li><li>Pre-configured in a RAID 5 standard configuration with iSCSI LUNs (Logical Unit Numbers).</li></ul>	
<b>Resolution</b>	<ul style="list-style-type: none"><li>The built-in transcoder supports up to 4 x</li><li>UHD resolution video streams in parallel</li></ul>	
<b>Integration/Compatibility /operability with other systems</b>	<ul style="list-style-type: none"><li>ONVIV enabled to allow integration and especially with KPLC existing system(GENETIC)</li><li>Shall allow third party systems operations.</li></ul>	
<b>Viewing/Monitoring</b>	<ul style="list-style-type: none"><li>Remote monitoring via desktop application, browser or SNMP</li><li>View high quality HD and even UHD video despite low or limited bandwidth connections. Dynamic Transcoding technology to ensure viewing video immediately - anytime, anywhere.</li><li>Allow use of Video Security Client for viewing video from a separate workstation or mobile device.</li><li>Increased reliability of high-availability hardware, embedded design as well as system-wide monitoring and management ensure maximum uptime.</li><li>Robust, secure operation - instant real time access to video</li><li>Instantly find what you are looking for</li></ul>	
<b>Storage</b>	<ul style="list-style-type: none"><li>Pre-installed, pre-configured IP storage solution with up to 10 TB storage capacity</li></ul>	

	<ul style="list-style-type: none"> <li>• need for separate NVR (Network Video Recorder) server and storage hardware</li> <li>• HDD quota and group management</li> <li>• Hot-swappable hard drives</li> <li>• SATA-3, 7200 RPM, 64 MB, 3.5", RAID-5 configurationDIP-6183-4HD: 4 x 3 TBDIP-6183-8HD: 8 x 3 TBDIP-6184-4HD: 4 x 4 TBDIP-6184-8HD: 8 x 4 TBDIP-6186-8HD: 8 x 6 TBDIP-6188-8HD: 8 x 8 TBDIP-6180-00N: w/o HDD</li> <li>• Disk Array 8no</li> </ul>	
<b>Warranty:</b>	3-Years	
<b>Interfaces</b>	<ul style="list-style-type: none"> <li>• Network: Dual Intel i210AT Gigabit LAN (teamed)1 IPMI BMC port</li> <li>• RS-232, RS-485, Keyboard</li> <li>• USB: Front: 2 USB 2.0 ports Rear: 2 USB 2.0 ports, 2 USB 3.0 ports</li> <li>• Advanced user and alarm management</li> <li>• Graphics card: AMD FirePro W4100</li> <li>• 4 x Mini Display Port</li> <li>• Optical: DVD-RW</li> <li>• SAS RAID Card: 8 ports LSI 3108 SAS3 controller</li> <li>• HDMI</li> <li>• VGA</li> </ul>	
<b>Processor</b>	<ul style="list-style-type: none"> <li>• Intel Xeon Processor E3-1275 V3 (8 MB Cache, 3.5 GHz)</li> </ul>	
<b>Memory</b>	<ul style="list-style-type: none"> <li>• 8 GB, DDR3-1666 ECC UNB (1 x 8 GB)</li> </ul>	
<b>Cameras supported</b>	Third-party network cameras supported	
<b>Software</b>	<ul style="list-style-type: none"> <li>• Web, Video management client or video management system</li> <li>• Once booted up the system shall offer immediate access to the VMS management application via a customized GUI with ability to use one central GUI for configuration and operation.</li> <li>• Advanced monitoring and management options using the Intelligent Platform Management Interface (IPMI).</li> <li>• Shall have the following installed: <ul style="list-style-type: none"> <li>◦ Microsoft Operating System and Video application pre-installed:</li> <li>◦ Windows Storage Server 2012 R2, 64-bit</li> <li>◦ Video Management System</li> <li>◦ Video Recording Manager including Video Streaming Gateway</li> <li>◦ Dynamic Transcoding</li> </ul> </li> </ul>	

## ii) ACCESS CONTROL SPECIFICATIONS

### Supply and Configuration of Biometric Access Systems Control and Card

No	ITEMS NAME	SPECIFICATIONS	Bidder's Response	Quoted Brand
A	Biometric Access control Cards	The Biometric Access Control card should Support Secure Identity Object™ (SIO) – Multi-layered security beyond the card technology, providing added protection to identity data. Trusted Identity Platform™ (TIP) enabled – Provides trusted identity within a secure ecosystem of interoperable products. Supports future growth 13.56 MHz read/write contactless smart card technology securely separated files enables multiple applications for future growth. Flexible configurations including magnetic stripe, external card numbering, vertical slot punch, custom artwork, and contact smart chip module.		
		<b>PROXIMITY/CARD READER TYPE A</b>	<b>Bidder's Response</b>	<b>Quoted Brand</b>
No	Feature	Technical Specification Must share brochure with Technical Bid & MAF		
1.	Fully Integrated Proximity card reader access control system	The reader must be compatible and shall be integrated to GENETEC Access Control Software		
2	Management	Embedded Web Management software		
	User Interface	Red, Green and Yellow LED to indicated denied or accepted entry		
4	Onboard Card reading	Support onboard card reading technologies for 125KHZ proximity and 13.56MHZ Mifare, iclass(16K and 32K bits), DESFire and dual technology(ie Proximity and Mifare.		
5	Modes of Identification	Allow the following identification methods <ul style="list-style-type: none"> <li>• Card Only</li> </ul>		
6	Communications	RS-485,USB Onboard RS 485 for communication between external access control module and terminal Allow direct communication with Host server without a controller. Allow other support to external technology using Wiegand connections.		
10	Offline Operating Mode	The reader must contain an up-to-date information offline. Finger prints and card holder templates must be stored from the control computer and frequent updates downloaded on to the reader.		
11	Configurations	Allow configuration through the Control computer.		
12	Input/Output	At least four inputs to monitor alarms and two changeovers relay outputs to activate door or other equipment.		
13	Scan parameters	Offer high resolution scanning detecting conductivity of living tissues beneath the skin.		
14	Housing	Rating IP65 Flame retardant polycarbonate with fully encapsulated electronics. Must be small and light and approved by client.(attach brochure)		

		<b>BIOMETRIC/CARD READER TYPE B</b>	<b>Bidder's Response</b>	<b>Quoted Brand</b>
<b>No</b>	<b>Feature</b>	<b>Technical Specification</b> <b>Must share brochure with Technical Bid &amp; MAF</b>		
1.	Fully Integrated Biometric and card reader access control system	The reader must serve as a controller, biometric reader, card reader as a single module in one device. The reader must be compatible and shall be integrated to; GENETEC Access Control Software		
2	Management	Embedded Web Management software		
3	User Capacity	The Reader should be able to host at least 50,000 registered users, with a capacity of at least 50,000 finger prints		
4	Onboard Card reading	Support onboard card reading technologies for 125KHZ proximity and 13.56MHZ Mifare, iclass(16K and 32K bits), DESFire and dual technology(ie Proximity and Mifare).		
5	Modes of Identification	Allow the following identification methods <ul style="list-style-type: none"> <li>• Fingerprint</li> <li>• Proximity Reader</li> <li>• Password</li> </ul> The reader must be able to allow the following access configurations <ul style="list-style-type: none"> <li>• Card Only,</li> <li>• Card and finger print</li> <li>• Card and Password</li> </ul>		
6	Communications	TCP/IP, RS-485, USB Onboard 10/100mps Ethernet using CAT5/6 cable. Onboard RS 485 for communication between external access control module and terminal Allow direct communication with Host server without a controller. Allow other support to external technology using Wiegand connections.		
7	Enrollment	Allow fast finger print enrollment using TCP/IP. Enroll fingerprint and cardholder at the same time without the need for separate finger print/card holder enroller. This shall be done directly through the access control system.		
8	Support Messages	The reader Must have Large graphical LCD screen to allow users messages to be legible eg access denied, card expired etc. The messages must be editable into local language from the control software.		
9	Data base	Structured database to Support at least 30,000 card holders and support at least 8,000 transactions in offline operations. Must have internal rechargeable Lithium back up battery.		
10	Offline Operating Mode	The reader must contain an up-to-date information offline. Finger prints and card holder templates must be stored from the control computer and frequent updates downloaded on to the reader.		
11	Configurations	Allow configuration through the Control computer and also via the keypad on the reader.		
12	Input/Output	At least four inputs to monitor alarms and two changeovers relay outputs to activate door or other equipment.		
13	Scan	Offer high resolution scanning detecting conductivity of living		

	parameters	tussues beneath the skin.		
14	Housing	Rating IP65 Flame retardant polycarbonate with fully encapsulated electronics. Must be small and light and approved by client.(attach brochure)		

		<b>BIOMETRIC/CARD READER TYPE C</b>	<b>Bidders Response</b>	<b>Quoted Brand</b>
<b>No</b>	<b>Feature</b>	<b>Technical Specification</b> <b>Must share brochure with Technical Bid &amp; MAF</b>		
1	Fully Integrated Biometric and card reader access control system	The reader must serve as a controller, biometric reader, card reader as a single module in one device. The reader must be compatible and shall be integrated to; GENETEC Access Control Software		
2	Management	Embedded Web Management software		
3	User Capacity	The Reader should be able to host at least 50,000 registered users, with a capacity of at least 50,000 finger prints and at least 10,000		
4	Onboard Card reading	Support onboard card reading technologies for 125KHZ proximity and 13.56MHZ Mifare, iclass(16K and 32K bits), DESFire and dual technology(je Proximity and Mifare.		
5	Modes of Identification	Allow the following identification methods <ul style="list-style-type: none"> <li>• Fingerprint</li> <li>• Proximity Reader</li> <li>• Password</li> <li>• Facial Recognition</li> </ul> The reader must be able to allow the following access configurations <ul style="list-style-type: none"> <li>• Card Only,</li> <li>• Card and finger print</li> <li>• Card and Password</li> <li>• Card and Facial Recognition</li> </ul>		
6	Communications	TCP/IP, RS-485, USB Onboard 10/100mps Ethernet using CAT5/6 cable. Onboard RS 485 for communication between external access control module and terminal Allow direct communication with Host server without a controller. Allow other support to external technology using Wiegand connections.		
7	Enrollment	Allow fast finger print enrollment using TCP/IP. Enroll fingerprint and cardholder at the same time without the need for separate finger print/card holder enroller. This shall be done directly through the access control system.		
8	Support Messages	The reader Must have Large graphical LCD screen to allow users messages to be legible eg access denied, card expired etc. The messages must be editable into local language from the control software.		
9	Data base	Structured database to Support at least 30,000 cardholders and support at least 8,000 transactions in offline operations. Must have internal rechargeable Lithium back up battery.		
10	Offline Operating	The reader must contain an up-to-date information offline.		

	Mode	Finger prints and card holder templates must be stored from the control computer and frequent updates downloaded on to the reader.		
11	Configurations	Allow configuration through the Control computer and also via the keypad on the reader.		
12	Input/Output	At least four inputs to monitor alarms and two changeovers relay outputs to activate door or other equipment.		
13	Scan parameters	Offer high resolution scanning detecting conductivity of living tissues beneath the skin.		
14	Housing	Rating IP65 Flame retardant polycarbonate with fully encapsulated electronics. Must be small and light and approved by client.(attach brochure)		

		<b>ACCESS CONTROL DOOR CONTROLLER</b>	<b>Bidders Response</b>	<b>Quoted Brand</b>
<b>No</b>	<b>Feature</b>	<b>Technical Specification Must share brochure with Technical Bid &amp; MAF</b>		
	Fully Integrated Biometric and card reader access control system	The door controller must be compatible and shall be integrated to; GENETEC Access Control Software Must be able to seamlessly work with BIOMETRIC/CARD READER TYPE A and BIOMETRIC/CARD READER TYPE B as specified in the document.		
	Management	Embedded Web Management software		
	Door	The Controller must be able to control up to 4 doors directly or using an expandable module.		
	User Capacity	The Reader should be able to host at least 50,000 registered users, with a capacity of at least 50,000 records		
	Communications	TCP/IP, RS-485, USB Onboard 10/100mps Ethernet. At least 4 Wiegand inputs for biometric reader		
	Support Messages	The reader Must have Large graphical LCD screen to allow users messages to be legible. The messages must be editable into local language from the control software.		
	Offline Operating Mode	The reader must contain an up-to-date information offline. Finger prints and card holder templates must be stored from the control computer and frequent updates downloaded on to the controller.		
	Configurations	Allow configuration through the Control computer and also via the keypad on the reader.		
	Input/Output	At least four inputs to monitor alarms and two changeovers relay outputs to activate door or other equipment.		
	Housing	Rating IP65 Flame retardant polycarbonate with fully encapsulated electronics. Must be small and light and approved by client.(attach brochure)		

ACCESS CONTROL MANAGEMENT/APPLICATION SOFTWARE				
No	Feature	Technical Specification <b>Must share brochure with Technical Bid &amp; MAF</b>	Bidders Response	Quoted Brand
	Integrated Command and control	System must be able to monitor a condition for one integrated subsystem while triggering an action for another.eg camera pop up upon perimeter break in or access violation.		
	WEB-Based	Must be WEB based platform that offers easy to use browser based applications that can be Accessed from any networked location via a PC, tablet or smart phone. Allow Users to respond to alarms online, configure the access control system remotely, as well as import personnel data and view WEB security dashboard reports, without the requirement of installing any software.		
	Real time central Event/alarm monitoring	Allow a real time view of all cardholder(s) movements in a selected zone/area providing information on who is present on site, as well as a counter of the total people in a zone/area and other real time events management. Provide a complete graphical and textual representation of the status of the entire access control system and integrated sub systems. The system must respond to alarm situations in real time providing a dynamic on-screen interface to systems with advanced graphical maps, live video pop-up and remote door broadcasting.		
	Transactions Display	Allow split screen view of real-time transaction outcomes and alarms. When a card is swiped at a reader, the cardholder's stored image and associated personnel details are displayed to allow cross check that the right person is using the card.		
	Visitor Management	The system Must allow Visitor management both locally and remotely via WEB to enable users request and manage temporary cardholders (visitors) from any location via a standard web browser, using an easy to use Front-end web application. Such management shall include; add visitor details, photos, sponsor details, reason for visit, visit duration and access level required		
	Integration with other systems	The software MUST be Fully integratable to GENETIC Security Management software. It must seamlessly integrate with other third party systems like Intruder alarms, CCTV, Fire alarm systems, Perimeter detection systems etc.		
	Database Partitioning	Must allow multiple partitions for multi-site operations. Partitioned system administrators shall have the ability to add personnel cardholders, produce ID badges and manage alarms on their own site, but are prevented from seeing the data of other partitioned databases that reside on the same access control server.		
	Reports	Must be able to avail Local and WEB-Based reports such as presence/absence reports, access control reports, Event reports, System function ability reports, time and attendance, among others.		
	Perimeter Monitoring	The software must integrate with other perimeter monitoring systems like CCTV, Intrusion systems, perimeter fencing systems and provide pop ups and other alerts on breach of perimeter conditions.		

# SECTION VIII (A): BILLS OF QUANTITIES

(See detailed specifications SECTION VI – TECHNICAL SPECIFICATIONS)

## CATEGORY 1: INSTALLATION OF CCTV MAJOR DISTRIBUTION/ TRANSMISSION SUBSTATION

NAIROBI WEST DEPOT IP- CCTV & ACCESS CONTROL							
No	Item Description	Unit	QTY	Country of origin	Rate in KES(Vat Exc)	Amount	Part Numbers
						KES(Vat Exc)	
A.	5 MPX, WDR Fixed Dome Camera	No.	37				
B.	2MPX PTZ Camera	No.	1				
C.	64-Channel NVR and storage Server upto 40TB	No.	1				
D.	Genetec Video License (per Camera).	No.	38				
E.	IP Access Control System <b>(TYPE B)</b> at Entry (Fingerprint Reader) and Exit (Proximity Reader) complete with IP readers with inbuilt controller module, Door Maglock, Door Closure and all necessary accessories to complete their installation and which must be compatible and shall be linked to existing GENETIC network (per Door)	No.	6				
F.	40 Inch 1080P LED Monitor C/W mount accessories	No.	1				
G.	32 Inch 1080P LED Monitor C/W mount accessories	No.	1				
H.	Gig Ethernet To Gig rack-mount Fiber optic Media Converter 30km Range industrial type	No.	2				
Total Carried to Collection Nairobi west depot page 1							



Bill of Quantities Page 2							
No	Item Description	Unit	QTY	Country of origin	Rate in KES(Vat Exc)	Amount	Part Numbers
I.	Allow for cabling, ducting and necessary accessories		1				
J.	Network Devices accessories&cabinets- 3 Edge sitches,1 core switch	LOT	1				
K.	6 Kva true online UPS	NO	1				
L.	3 Kva true online UPS	NO	2				
M.	1.5 Kva true online UPS	NO	1				
N.	Allow for integration of the system to existing GENETIC server	LOT	1				
O.	Client Work station	No	1				
P.	Installation, Testing and Commissioning to client satisfaction	LOT	1				
Q.	Biometric Access Control cards	No.	100				
Total Carried to Collection Nairobi west depot page 2							

	<b>SUMMARY PAGE NAIROBI WEST DEPOT IP- CCTV &amp;ACCESS CONTROL CCTV BILL OF QUANTITIES</b>		
	<b>Total Carried to collection Page 1 Nairobi west depot</b>		
	<b>Total Carried to collection Page 2 Nairobi west depot</b>		
	<b>SUB-TOTAL- NAIROBI WEST DEPOT IP- CCTV &amp;ACCESS CONTROL</b>		

**CATEGORY 1: INSTALLATION OF CCTV MAJOR DISTRIBUTION/ TRANSMISSION SUBSTATION**
**KITALE DEPOT IP- CCTV & ACCESS CONTROL**

No	Item Description	Unit	QTY	Country of origin	Rate in KES(Vat Exc)	Amount	Part Numbers
						KES(Vat Exc)	
<b>A.</b>	5 MPX, WDR Fixed Dome Camera	No.	21				
<b>B.</b>	32-Channel NVR and storage Server upto 40TB	No.	1				
<b>C.</b>	Genetec Video License (per Camera).	No.	21				
<b>D.</b>	IP Access Control System at Entry <b>(TYPE B)</b> (Fingerprint Reader) and Exit (Proximity Reader) complete with IP readers with inbuilt controller module, Door Maglock, Door Closure and all necessary accessories to complete their installation and which must be compatible and shall be linked to existing GENETIC network (per door).	No	6				
<b>E.</b>	40 Inch 1080P LED Monitor C/W mount accessories	No.	1				
<b>F.</b>	Gig Ethernet To Gig rack-mount Fiber optic Media Converter 30km Range industrial type	No.	2				
	<b>Total Carried to collection Kitale depot Page 1</b>						

Bill of Quantities Kitale depot Page 2							
No	Item Description	Unit	QTY	Country of origin	Rate in KES(Vat Exc)	Amount	Part Numbers
G.	Allow for cabling, ducting and necessary accessories	LOT	1				
H.	Network Devices accessories&cabinets-3 Edge sitches	LOT	1				
I.	3 Kva true online UPS	NO	2				
J.	Allow for integration of the system to existing GENETIC server	LOT	1				
K.	Installation, Testing and Commissioning to client satisfaction	LOT	1				
L	Biometric Access Control cards	No.	200				
	Total Carried to collection Kitale depot Page 2						

	<b>SUMMARY PAGE KITALE DEPOT IP- CCTV &amp;ACCESS CONTROL IP- CCTV &amp;ACCESS CONTROL CCTV BILL OF QUANTITIES</b>		
	<b>Total Carried to collection Kitale depot Page 1</b>		
	<b>Total Carried to collection Kitale depot Page 2</b>		
	<b>SUB-TOTAL- KITALE DEPOT IP- CCTV &amp;ACCESS CONTROL</b>		

**CATEGORY 1: INSTALLATION OF CCTV MAJOR DISTRIBUTION/ TRANSMISSION SUBSTATION**
**WEBUYE SUBSTATION IP- CCTV &ACCESS CONTROL**

No	Item Description	Unit	QTY	Country of origin	Rate in KES(Vat Exc)	Amount	Part Numbers
						KES(Vat Exc)	
A	5 MPX, WDR Fixed Dome Camera	No.	16				
B	2MPX PTZ Camera	No.	2				
C	32-Channel NVR and storage Server upto 40TB	No.	1				
D	Genetec Video License (per Camera).	No.	18				
E	IP Access Control System at Entry <b>(TYPE A)</b> (Proximity Reader) and Exit (Proximity Reader) complete with IP readers with inbuilt controller module, Door Maglock, Door Closure and all necessary accessories to complete their installation and which must be compatible and shall be linked to existing GENETIC network (Per Door)	No.	4				
F	32 Inch 1080P LED Monitor C/W mount accessories	No.	1				
G	Gig Ethernet To Gig rack-mount Fiber optic Media Converter 30km Range industrial type	No.	2				
	<b>Total Carried to collection Webuye Substation Page 1</b>						

Bill of Quantities Webuye Substation Page 2							
No	Item Description	Unit	QTY	Country of origin	Rate in KES(Vat Exc)	Amount	Part Numbers
H	Allow for cabling, ducting and necessary accessories	LOT	1				
I	Network Devices accessories&cabinets-3 Edge sitches,1 core switch	LOT	1				
K	3 Kva true online UPS	NO	1				
L	Allow for integration of the system to existing GENETIC server	LOT	1				
N	Installation, Testing and Commissioning to client satisfaction	LOT	1				
O	Biometric Access Control Cards	No.	200				
	Total Carried to collection Webuye Substation Page 2						

	SUMMARY PAGE WEBUYE SUBSTATION IP- CCTV &ACCESS CONTROL IP- CCTV &ACCESS CONTROL CCTV BILL OF QUANTITIES		
	Total Carried to collection Webuye Substation Page 1		
	Total Carried to collection Webuye Substation Page 2		
	SUB-TOTAL-WEBUYE SUBSTATION IP- CCTV &ACCESS CONTROL		

**CATEGORY 1: INSTALLATION OF CCTV MAJOR DISTRIBUTION/ TRANSMISSION SUBSTATION**

NEW BAMBURI SUBSTATION IP- CCTV & ACCESS CONTROL							
No	Item Description	Unit	QTY	Country of origin	Rate in KES(Vat Exc)	Amount	Part Numbers
						KES(Vat Exc)	
A.	5 MPX, WDR Fixed Dome Camera	No.	29				
B.	2MPX PTZ Camera	No.	1				
C.	32-Channel NVR and storage Server upto 40TB	No.	1				
D.	Genetec Video License (per Camera).	No.	30				
E.	IP Access Control System <b>TYPE A</b> at Entry (Proximity Reader) and Exit (Proximity Reader) complete with IP readers with inbuilt controller module, Door Maglock, Door Closure and all necessary accessories to complete their installation and which must be compatible and shall be linked to existing GENETIC network (per door).	No.	3				
F.	40 Inch 1080P LED Monitor C/W mount accessories	No.	1				
G.	Gig Ethernet To Gig rack-mount Fiber optic Media Converter 30km Range industrial type	No.	2				
H.	Allow for cabling, ducting and necessary accessories	LOT	1				
I.	Network Devices accessories&cabinets-3 Edge sitches,1 core switch	LOT	1				
J.	3 Kva true online UPS	NO	2				
K.	1.5 Kva true online UPS	NO	1				



L.	Allow for integration of the system to existing GENETIC server	LOT	1				
M.	Client Work station	LOT	1				
N.	Installation, Testing and Commissioning to client satisfaction	LOT	1				
O.	Biometric Access Control cards	NO.	200				
<b>Total Carried to collection New Bamburi Substation Page 1</b>							

	<b>SUMMARY PAGE NEW BAMBURI SUBSTATION IP- CCTV &amp;ACCESS CONTROL IP- CCTV &amp;ACCESS CONTROL CCTV BILL OF QUANTITIES</b>		
	<b>Total Carried to collection New Bamburi Substation Page 1</b>		
	<b>Total Carried to collection New Bamburi Substation Page 2</b>		
	<b>SUB-TOTAL-NEW BAMBURI SUBSTATION IP- CCTV &amp;ACCESS CONTROL</b>		

**CATEGORY 1: INSTALLATION OF CCTV MAJOR DISTRIBUTION/ TRANSMISSION SUBSTATION**

EMBU DEPOT/SUBSTATION IP- CCTV & ACCESS CONTROL							
No	Item Description	Unit	QTY	Country of origin	Rate in KES(Vat Exc)	Amount	Part Numbers
						KES(Vat Exc)	
A	5 MPX, WDR Fixed Dome Camera	No.	10				
C	32-Channel NVR and storage Server upto 40TB	No.	1				
D	Genetec Video License (per Camera).	No.	10				
E	IP Access Control System at Entry <b>TYPE B</b> (Fingerprint Reader) and Exit (Proximity Reader) complete with IP readers with inbuilt controller module, Door Maglock, Door Closure and all necessary accessories to complete their installation and which must be compatible and shall be linked to existing GENETIC network (per door).	No.	2				
F	32 Inch 1080P LED Monitor C/W mount accessories	No.	1				
G	Gig Ethernet To Gig rack-mount Fiber optic Media Converter 30km Range industrial type	No.	2				
<b>Total Carried to collection Embu Depot/ Substation Page 1</b>							

Bill of Quantities Embu Depot/ Substation Page 2							
No	Item Description	Unit	QTY	Country of origin	Rate in KES(Vat Exc)	Amount	Part Numbers
I	Allow for cabling, ducting and necessary accessories	LOT	1				
J	Network Devices accessories&cabinets-3 Edge sitches,1 core switch	LOT	1				
L	3 Kva true online UPS	NO	2				
M	1.5 Kva true online UPS	NO	1				
N	Allow for integration of the system to existing GENETIC server	LOT	1				
O	Installation, Testing and Commissioning to client satisfaction	LOT	1				
P.	Biometric Access Control cards	No.	200				
Total Carried to collection Embu Depot/ Substation Page 2							

SUMMARY PAGE EMBU DEPOT/ SUBSTATION IP- CCTV &ACCESS CONTROL IP- CCTV &ACCESS CONTROL CCTV BILL OF QUANTITIES			
	Total Carried to collection Embu Depot/ Substation Page 1		
	Total Carried to collection Embu Depot/ Substation Page 2		
	SUB-TOTAL- EMBU DEPOT/SUBSTATION IP- CCTV &ACCESS CONTROL		

**CATEGORY 1: INSTALLATION OF CCTV MAJOR DISTRIBUTION/ TRANSMISSION SUBSTATION**

**TECHNICAL TRAINING**

Bill of Quantities Category 1-Technical Training Page 1							
No	Item Description	Unit	QTY	Country of origin	Rate in KES(Vat Exc)	Amount	Part Numbers
A	Manufacturers Training-3no technical persons (Factor only the cost of training i.e venue ,trainers, transport to and from the training venue and certification)	LOT	1				
Total Carried to collection Bill of Quantities Category 1- Technical Training Page 1							

SUMMARY PAGE CATEGORY 1: INSTALLATION OF CCTV MAJOR DISTRIBUTION/ TRANSMISSION SUBSTATION BILL OF QUANTITIES			
	Sub-total- Nairobi west depot Ip- Cctv &access control		
	Sub-total- Kitale depot/ Substation Ip- Cctv &access control		
	Sub-total- Webuye Substation Ip- Cctv &access control		
	Sub-total- New Bamburi Substation Ip- Cctv &access control		
	Sub-total- Embu Depot /Substation Ip- Cctv &access control		
	Sub-total- TECHNICAL TRAINING		
	SUB-TOTAL- CCTV MAJOR DISTRIBUTION/ TRANSMISSION SUBSTATION		
	Add 16% Vat		
	SUB-TOTAL		
	GRAND TOTAL SUB-TOTAL- CCTV MAJOR DISTRIBUTION/ TRANSMISSION SUBSTATION		

### CATEGORY 1-RECOMMENDED SCHEDULE OF SPARE PARTS

[illegible]

Name of Tenderer\_\_\_\_\_Signature & Official Stamp

# SECTION VIII(B)– BILLS OF QUANTITIES

(See specifications in a separate section)

## CATEGORY 2: INSTALLATION OF IP-CCTV FOR KEY OFFICES

### KAKAMEGA OFFICE IP- CCTV &ACCESS CONTROL

No	Item Description	Unit	QTY	Country of origin	Rate in KES(Vat Exc)	Amount	Part Numbers
						KES(Vat Exc)	
A	5 MPX, WDR Fixed Dome Camera	No.	18				
B	32-Channel NVR and storage Server upto 20TB	No.	1				
C	Genetec Video License (per Camera).	No.	18				
D	IP Access Control System <b>TYPE B</b> at Entry (Fingerprint Reader) and Exit (Proximity Reader) complete with IP readers with inbuilt controller module, Door Maglock, Door Closure and all necessary accessories to complete their installation and which must be compatible and shall be linked to existing GENETIC network (per door).	No	6				
F	32 Inch 1080P LED Monitor C/W mount accessories	No.	1				
G	Gig Ethernet To Gig rack-mount Fiber optic Media Converter 30km Range industrial type	No.	2				
	<b>Total Carried to Collection Kakamega Office page 1</b>						

**Bill of Quantities Kakamega Office Page 2**

<b>No</b>	<b>Item Description</b>	<b>Unit</b>	<b>QTY</b>	<b>Country of origin</b>	<b>Rate in KES(Vat Exc)</b>	<b>Amount</b>	<b>Part Numbers</b>
H	Allow for cabling, ducting and necessary accessories		1				
I	Network Devices accessories&cabinets-3 Edge sitches,1 core switch	LOT	1				
K	3 Kva true online UPS	NO	2				
M	Allow for integration of the system to existing GENETIC server	LOT	1				
P	Installation, Testing and Commissioning to client satisfaction	LOT	1				
Q	Biometric Access Control cards	No.	200				
<b>Total Carried to Collection Kakamega Office page 2</b>							

	<b>SUMMARY PAGE KAKAMEGA OFFICE IP- CCTV &amp;ACCESS CONTROL CCTV BILL OF QUANTITIES</b>		
	<b>Total Carried to collection Page 1 Kakamega Office</b>		
	<b>Total Carried to collection Page 2 Kakamega Office</b>		
	<b>SUB-TOTAL- KAKAMEGA OFFICE - CCTV &amp;ACCESS CONTROL</b>		



**CATEGORY 2: INSTALLATION OF IP-CCTV FOR KEY OFFICES**
**KERICHO DEPOT IP- CCTV &ACCESS CONTROL**

No	Item Description	Unit	QTY	Country of origin	Rate in KES(Vat Exc)	Amount	Part Numbers
						KES(Vat Exc)	
A	5 MPX, WDR Fixed Dome Camera	No.	19				
B	32-Channel NVR and storage Server upto 20TB	No.	1				
C	Genetec Video License (per Camera).	No.	19				
D	IP Access Control System <b>TYPE B</b> at Entry (Fingerprint Reader) and Exit (Proximity Reader) complete with IP readers with inbuilt controller module, Door Maglock, Door Closure and all necessary accessories to complete their installation and which must be compatible and shall be linked to existing GENETIC network (per door).	No	7				
E	40 Inch 1080P LED Monitor C/W mount accessories	No.	1				
G	Gig Ethernet To Gig rack-mount Fiber optic Media Converter 30km Range industrial type	No.	2				
	<b>Total Carried to Collection Kericho Depot page 1</b>						

Bill of Quantities Kericho Depot Page 2							
No	Item Description	Unit	QTY	Country of origin	Rate in KES(Vat Exc)	Amount	Part Numbers
H	Allow for cabling, ducting and necessary accessories		1				
I	Network Devices accessories&cabinets-3 Edge sitches,1 core switch	LOT	1				
J	3 Kva true online UPS	NO	1				
K	1.5 Kva true online UPS	NO	2				
L	Allow for integration of the system to existing GENETIC server	LOT	1				
M	Installation, Testing and Commissioning to client satisfaction	LOT	1				
N	Biometric Access Control cards	No.	200				
	<b>Total Carried to Collection Kericho Depot page 2</b>						

	SUMMARY PAGE KERICHO DEPOT IP- CCTV &ACCESS CONTROL CCTV BILL OF QUANTITIES		
	<b>Total Carried to collection Page 1 Kericho Depot</b>		
	<b>Total Carried to collection Page 2 Kericho Depot</b>		
	<b>SUB-TOTAL- KERICHO DEPOT - CCTV &amp;ACCESS CONTROL</b>		

**CATEGORY 2: INSTALLATION OF IP-CCTV FOR KEY OFFICES**
**KISII DEPOT IP- CCTV & ACCESS CONTROL**

No	Item Description	Unit	QTY	Country of origin	Rate in KES(Vat Exc)	Amount	Part Numbers
						KES(Vat Exc)	
A	5 MPX, WDR Fixed Dome Camera	No.	19				
B	32-Channel NVR and storage Server upto 20TB	No.	1				
C	Genetec Video License (per Camera).	No.	19				
D	IP Access Control System <b>TYPE B</b> at Entry (Fingerprint Reader) and Exit (Proximity Reader) complete with IP readers with inbuilt controller module, Door Maglock, Door Closure and all necessary accessories to complete their installation and which must be compatible and shall be linked to existing GENETIC network (per door).	No.	4				
E	40 Inch 1080P LED Monitor C/W mount accessories	No.	1				
F	Gig Ethernet To Gig rack-mount Fiber optic Media Converter 30km Range industrial type	No.	2				
	<b>Total Carried to Collection Kisii Depot page 1</b>						

Bill of Quantities Kericho Depot Page 2							
No	Item Description	Unit	QTY	Country of origin	Rate in KES(Vat Exc)	Amount	Part Numbers
G	Allow for cabling, ducting and necessary accessories		1				
H	Network Devices accessories&cabinets- 3 Edge sitches,1 core switch	LOT	1				
I	3 Kva true online UPS	NO	1				
J	1.5 Kva true online UPS	NO	2				
K	Allow for integration of the system to existing GENETIC server	LOT	1				
N	Installation, Testing and Commissioning to client satisfaction	LOT	1				
O	Biometric Access Control cards	No.	200				
	<b>Total Carried to Collection Kisii Depot page 2</b>						

	<b>SUMMARY PAGE KISII DEPOT IP- CCTV &amp;ACCESS CONTROL CCTV BILL OF QUANTITIES</b>		
	<b>Total Carried to collection Page 1 Kisii Depot</b>		
	<b>Total Carried to collection Page 2 Kisii Depot</b>		
	<b>SUB-TOTAL- KISII DEPOT - CCTV &amp;ACCESS CONTROL</b>		

**CATEGORY 2: INSTALLATION OF IP-CCTV FOR KEY OFFICES**
**NAKURU DEPOT IP- CCTV &ACCESS CONTROL**

No	Item Description	Unit	QTY	Country of origin	Rate in KES(Vat Exc)	Amount	Part Numbers
						KES(Vat Exc)	
A	5 MPX, WDR Fixed Dome Camera	No.	32				
B	64-Channel NVR and storage Server up to 24TB	No.	1				
C	Genetec Video License (per Camera).	No.	32				
D	IP Access Control System <b>TYPE B</b> at Entry (Fingerprint Reader) and Exit (Proximity Reader) complete with IP readers with inbuilt controller module, Door Maglock, Door Closure , Door Closure and all necessary accessories to complete their installation and which must be compatible and shall be linked to existing GENETIC network (Per door).	No.	4				
E	40 Inch 1080P LED Monitor C/W mount accessories	No.	1				
F	Gig Ethernet To Gig rack-mount Fiber optic Media Converter 30km Range industrial type	No.	2				
<b>Total Carried to Collection Nakuru Depot page 1</b>							

Bill of Quantities Nakuru Depot Page 2							
No	Item Description	Unit	QTY	Country of origin	Rate in KES(Vat Exc)	Amount	Part Numbers
G	Allow for cabling, ducting and necessary accessories		1				
H	Network Devices accessories&cabinets-3 Edge sitches,1 core switch	LOT	1				
I	3 Kva true online UPS	NO	1				
J	1.5 Kva true online UPS	NO	2				
K	Allow for integration of the system to existing GENETIC server	LOT	1				
L	Installation, Testing and Commissioning to client satisfaction	LOT	1				
M	Biometric Access Control cards	No.	200				
	<b>Total Carried to Collection Nakuru Depot page 2</b>						

SUMMARY PAGE NAKURU DEPOT IP- CCTV &ACCESS CONTROL CCTV BILL OF QUANTITIES			
	<b>Total Carried to collection Page 1 Nakuru Depot</b>		
	<b>Total Carried to collection Page 2 Nakuru Depot</b>		
	<b>SUB-TOTAL- NAKURU DEPOT - CCTV &amp;ACCESS CONTROL</b>		

**CATEGORY 2: INSTALLATION OF IP-CCTV FOR KEY OFFICES**
**NAIROBI SOUTH DEPOT IP- CCTV &ACCESS CONTROL**

No	Item Description	Unit	QTY	Country of origin	Rate in KES(Vat Exc)	Amount	Part Numbers
						KES(Vat Exc)	
A	5 MPX, WDR Fixed Dome Camera	No.	48				
B	2MPX PTZ Camera	No.	4				
C	64-Channel NVR and storage Server upto 40TB	No.	1				
D	Genetec Video License (per Camera).	No.	52				
E	IP Access Control System <b>TYPE B</b> at Entry (Finger print Reader) and Exit (Proximity Reader) complete with IP readers with inbuilt controller module, Door Maglock, Door Closure and all necessary accessories to complete their installation and which must be compatible and shall be linked to existing GENETIC network (per door).	No.	6				
F	40 Inch 1080P LED Monitor C/W mount accessories	No.	2				
G	Gig Ethernet To Gig rack-mount Fiber optic Media Converter 30km Range industrial type	No.	2				
	<b>Total Carried to Collection Nairobi South Depot page 1</b>						

Bill of Quantities Nairobi South Depot Page 2							
No	Item Description	Unit	QTY	Country of origin	Rate in KES(Vat Exc)	Amount	Part Numbers
H	Allow for cabling, ducting, poles & necessary accessories		1				
I	Network Devices accessories & cabinets-6 Edge sitches, 1 core switch	LOT	1				
J	6 Kva true online UPS	NO	1				
K	3 Kva true online UPS	NO	3				
L	1.5 Kva true online UPS	NO	3				
M	Allow for integration of the system to existing GENETIC server	LOT	1				
O	Client Work station	No	1				
P	Installation, Testing and Commissioning to client satisfaction	LOT	1				
Q	Biometric Access Control cards	No.	200				
Total Carried to Collection Nairobi South Depot page 2							

SUMMARY PAGE NAIROBI SOUTH DEPOT IP- CCTV & ACCESS CONTROL CCTV BILL OF QUANTITIES			
	Total Carried to collection Page 1 Nairobi South Depot		
	Total Carried to collection Page 2 Nairobi South Depot		
	SUB-TOTAL- NAIROBI SOUTH DEPOT - CCTV & ACCESS CONTROL		



**CATEGORY 2: INSTALLATION OF IP-CCTV FOR KEY OFFICES**
**LUKENYA SUBSTATION IP- CCTV &ACCESS CONTROL**

No	Item Description	Unit	QTY	Country of origin	Rate in KES(Vat Exc)	Amount	Part Numbers
						KES(Vat Exc)	
A	5 MPX, WDR Fixed Dome Camera	No.	16				
B	32-Channel NVR and storage Server upto 12TB	No.	1				
C	Genetec Video License (per Camera).	No.	16				
D	IP Access Control System <b>TYPE A</b> at Entry (Proximity Reader) and Exit (Proximity Reader) complete with IP readers with inbuilt controller module, Door Maglock, Door Closure and all necessary accessories to complete their installation and which must be compatible and shall be linked to existing GENETIC network (per door).	No.	1				
E	40 Inch 1080P LED Monitor C/W mount accessories	No.	0				
F	32 Inch 1080P LED Monitor C/W mount accessories	No.	0				
G	Gig Ethernet To Gig rack-mount Fiber optic Media Converter 30km Range industrial type	No.	2				
<b>Total Carried to Collection Lukenya Substation page 1</b>							

Bill of Quantities Lukenya Substation Page 2							
No	Item Description	Unit	QTY	Country of origin	Rate in KES(Vat Exc)	Amount	Part Numbers
H	Allow for cabling, ducting, poles & necessary accessories		1				
I	Network Devices accessories & cabinets-1 Edge switch	LOT	1				
K	3 Kva true online UPS	NO	1				
M	Allow for integration of the system to existing GENETIC server	LOT	1				
N	Installation, Testing and Commissioning to client satisfaction	LOT	1				
O	Biometric Access Control cards	No.	200				
	<b>Total Carried to Collection Lukenya Substation page 2</b>						

	<b>SUMMARY PAGE LUKENYA SUBSTATION IP- CCTV &amp; ACCESS CONTROL CCTV BILL OF QUANTITIES</b>		
	<b>Total Carried to collection Page 1 Lukenya Substation</b>		
	<b>Total Carried to collection Page 2 Lukenya Substation</b>		
	<b>SUB-TOTAL-LUKENYA SUBSTATION CCTV &amp; ACCESS CONTROL</b>		

**CATEGORY 2: INSTALLATION OF CCTV MAJOR DISTRIBUTION/ TRANSMISSION SUBSTATION**

**TECHNICAL TRAINING**

Bill of Quantities Category 2-Technical Training Page 1							
No	Item Description	Unit	QTY	Country of origin	Rate in KES(Vat Exc)	Amount	Part Numbers
A	Manufacturers Training-3no technical persons (Factor only the cost of training i.e venue ,trainers, transport to and from the training venue and certification)	LOT	1				
	<b>Total Carried to collection Bill of Quantities Category 2- Technical Training Page 1</b>						

	<b>SUMMARY PAGE CATEGORY 2 BILL OF QUANTITIES:INSTALLATION OF IP-CCTV FOR KEY OFFICES</b>		
	<b>Sub-total- Kakamega Office CCTV IP- CCTV &amp; Access control</b>		
	<b>Sub-total- Kericho Depot CCTV IP- CCTV &amp; Access control</b>		
	<b>Sub-total- Kisii Depot CCTV IP- CCTV &amp; Access control</b>		
	<b>Sub-total- Nakuru Depot CCTV IP- CCTV &amp; Access control</b>		
	<b>Sub-total- Nairobi South Depot CCTV IP- CCTV &amp; Access control</b>		
	<b>Sub-total- Lukenya Substation CCTV IP- CCTV &amp; Access control</b>		
	<b>Sub-total- Technical Training</b>		
	<b>SUB-TOTAL- INSTALLATION OF IP-CCTV FOR KEY OFFICES</b>		
	<b>Add 16% Vat</b>		
	<b>SUB-TOTAL</b>		
	<b>GRAND TOTAL- INSTALLATION OF IP-CCTV FOR KEY OFFICES</b>		

## CATEGORY 2-RECOMMENDED SCHEDULE OF SPARE PARTS

[illegible]

Name of Tenderer\_\_\_\_\_Signature & Official Stamp

# SECTION VIII(C)– BILLS OF QUANTITIES

(See specifications in a separate section)

## CATEGORY 3: INSTALLATION OF ACCESS CONTROL IN SUBSTATIONS & KEY OFFICES

### ELECTRICITY HOUSE KISUMU IP- CCTV & ACCESS CONTROL

No	Item Description	Unit	QTY	Country of origin	Rate in KES(Vat Exc)	Amount	Part Numbers
						KES(Vat Exc)	
A	5 MPX, WDR Fixed Dome Camera	No.	55				
B	64-Channel NVR and storage Server upto 40TB	No.	1				
C	Genetec Video License (per Camera).	No.	55				
D	IP Access Control System <b>TYPE C</b> at Entry (Facial Reader) and Exit (Proximity Reader) complete with IP readers with inbuilt controller module, Door Maglock, Door Closure and all necessary accessories to complete their installation and which must be compatible and shall be linked to existing GENETIC network (Per door).	No.	12				
E	40 Inch 1080P LED Monitor C/W mount accessories	No.	1				
F	32 Inch 1080P LED Monitor C/W mount accessories	No.	1				
G	Gig Ethernet To Gig rack-mount Fiber optic Media Converter 30km Range industrial type	No.	2				
	<b>Total Carried to Collection Electricity House Kisumu page 1</b>						

Bill of Quantities Electricity House Kisumu Page 2							
No	Item Description	Unit	QTY	Country of origin	Rate in KES(Vat Exc)	Amount	Part Numbers
H	Allow for cabling, ducting and necessary accessories		1				
I	Network Devices accessories&cabinets-6 Edge sitches,1 core switch	LOT	1				
J	6 Kva true online UPS	NO	1				
K	3 Kva true online UPS	NO	3				
L	1.5 Kva true online UPS	NO	2				
M	Allow for integration of the system to existing GENETIC server	LOT	1				
O	Client Work station	No	1				
P	Installation, Testing and Commissioning to client satisfaction	LOT	1				
Q	Establishment of regional Security Control Room	LOT	1		3,500,000		
R	Biometric Access Control cards	No.	1000				
	<b>Total Carried to Collection Electricity House Kisumu page 2</b>						

	<b>SUMMARY PAGE ELECTRICITY HOUSE KISUMU-IP- CCTV &amp;ACCESS CONTROL CCTV BILL OF QUANTITIES</b>		
	<b>Total Carried to collection Page 1 Electricity House Kisumu</b>		
	<b>Total Carried to collection Page 2 Electricity House Kisumu</b>		
	<b>SUB-TOTAL- ELECTRICITY HOUSE KISUMU-IP- CCTV &amp;ACCESS</b>		

**CATEGORY 3: INSTALLATION OF ACCESS CONTROL IN SUBSTATIONS & KEY OFFICES**
**ELECTRICITY HOUSE NAKURU ACCESS CONTROL SYSTEMS**

No	Item Description	Unit	QTY	Country of origin	Rate in KES(Vat Exc)	Amount	Part Numbers
						KES(Vat Exc)	
A	IP Access Control System <b>TYPE C</b> at Entry (Facial Reader) and Exit (Proximity Reader) complete with IP readers with inbuilt controller module, Door Maglock, Door Closure and all necessary accessories to complete their installation and which must be compatible and shall be linked to existing GENETIC network (Per door).	No.	10				
B	Visitor Management client and license	No.	1				
C	ACS enrollment Module		1				
D	Client Workstation	No.	1				
E	Speed gates as per specifications	No.	2				
F	Walkthrough detector as per specifications	NO.	2				
G	Sliding gate as per specifications	LOT	1				
H	Network Devices accessories&cabinets-4no Edge switches	LOT	1				
I	3 Kva true online UPS	NO	3				
J	Installation, Testing, Training and Commissioning to client satisfaction	LOT	1				
K	Biometric Access Control cards	No.	200				
	<b>Total Carried to Collection Electricity House Nakuru page 1</b>						



**CATEGORY 3: INSTALLATION OF ACCESS CONTROL IN SUBSTATIONS & KEY OFFICES**
**ELECTRICITY HOUSE MOMBASA ACCESS CONTROL SYSTEMS**

No	Item Description	Unit	QTY	Country of origin	Rate in KES(Vat Exc)	Amount	Part Numbers
						KES(Vat Exc)	
A	IP Access Control System <b>TYPE C</b> at Entry (Facial Reader) and Exit (Proximity Reader) complete with IP readers with inbuilt controller module, Door Maglock, Door Closure and all necessary accessories to complete their installation and which must be compatible and shall be linked to existing GENETIC network (Per door).	No.	18				
B	Visitor Management client and license	No.	1				
C	ACS enrollment Module		1				
D	Network Devices accessories&cabinets-4no Edge switches	LOT	1				
E	3 Kva true online UPS	NO	3				
G	Installation, Testing, Training and Commissioning to client satisfaction	LOT	1				
H	Biometric Access Control cards	No.	200				
	<b>Total Carried to Collection Electricity House Mombasa page 1</b>						

### CATEGORY 3: INSTALLATION OF ACCESS CONTROL IN SUBSTATIONS & KEY OFFICES

#### TECHNICAL TRAINING

Bill of Quantities Category 3-Technical Training Page 1							
No	Item Description	Unit	QTY	Country of origin	Rate in KES(Vat Exc)	Amount	Part Numbers
A	Manufacturers Training-3no technical persons (Factor only the cost of training i.e venue ,trainers, transport to and from the training venue and certification)	LOT	1				
	Total Carried to collection Bill of Quantities Category 2- Technical Training Page 1						

	<b>SUMMARY PAGE: INSTALLATION OF ACCESS CONTROL IN SUBSTATIONS &amp; KEY OFFICES BILL OF QUANTITIES</b>		
	<b>Total Carried to collection Page 1 Electricity House Kisumu</b>		
	<b>Total Carried to collection Page 1 Electricity House Nakuru</b>		
	<b>Total Carried to collection Page 1 Electricity House Mombasa</b>		
	<b>Total – Technical Training</b>		
	<b>SUB-TOTAL</b>		
	<b>Add 16% Vat</b>		
	<b>SUB-TOTAL 2</b>		
	<b>GRAND TOTAL- INSTALLATION OF ACCESS CONTROL IN SUBSTATIONS &amp; KEY OFFICES</b>		

### CATEGORY 3-RECOMMENDED SCHEDULE OF SPARE PARTS

[illegible]

Name of Tenderer\_\_\_\_\_Signature & Official Stamp

**SECTION VIII (D)–BILLS OF QUANTITIES**  
(See specifications in a separate section )

**CATEGORY 4: SECURITY SYSTEMS FOR FACILITIES AND INFRASTRUCTURE**

**MACHAKOS SUBSTATION IP- CCTV &ACCESS CONTROL**

No	Item Description	Unit	QTY	Country of origin	Rate in KES(Vat Exc)	Amount	Part Numbers
						KES(Vat Exc)	
A	5 MPX, WDR Fixed Dome Camera	No.	16				
B	16-Channel NVR and storage Server upto 12TB	No.	1				
C	Genetec Video License (per Camera).	No.	16				
D	IP Access Control System <b>TYPE A</b> at Entry (Proximity Reader) and Exit (Proximity Reader) complete with IP readers with inbuilt controller module, Door Maglock, Door Closure and all necessary accessories to complete their installation and which must be compatible and shall be linked to existing GENETIC network (per door).	No	2				
E	Gig Ethernet To Gig rack-mount Fiber optic Media Converter 30km Range industrial type	No.	2				
	<b>Total Carried to Collection Machakos Substation page 1</b>						

Bill of Quantities Machakos Substation Page 2							
No	Item Description	Unit	QTY	Countr y of origin	Rate in KES(Vat Exc)	Amount	Part Numbers
F	Allow for cabling, ducting and necessary accessories	LOT	1				
G	Network Devices accessories&cabinets-1-Edge sitches,0 core switch	LOT	1				
M	3 Kva true online UPS	NO	1				
N	Allow for integration of the system to existing GENETIC server	LOT	1				
O	Installation, Intergration, Testing and Commissioning to client satisfaction (Proposed)	LOT	1				
P	Biometric Access Control cards	No.	200				
	<b>Total Carried to Collection Machakos Substation page 2</b>						

	SUMMARY PAGE MACHAKOS SUBSTATION-IP- CCTV &ACCESS CONTROL CCTV BILL OF QUANTITIES		
	<b>Total Carried to collection Page 1 Machakos Substation</b>		
	<b>Total Carried to collection Page 2 Machakos Substation</b>		
	<b>SUB-TOTAL-MACHAKOS SUBSTATION-IP- CCTV &amp;ACCESS</b>		

**CATEGORY 4: SECURITY SYSTEMS FOR FACILITIES AND INFRASTRUCTURE**
**NEW INDUSTRIAL SUBSTATION IP- CCTV &ACCESS CONTROL**

No	Item Description	Unit	QTY	Country of origin	Rate in KES(Vat Exc)	Amount	Part Numbers
						KES(Vat Exc)	
A	5 MPX, WDR Fixed Dome Camera	No.	10				
B	16-Channel NVR and storage Server upto 12TB	No.	1				
C	Genetec Video License (per Camera).	No.	10				
D	IP Access Control System <b>TYPE A</b> at Entry (Proximity Reader) and Exit (Proximity Reader) complete with IP readers with inbuilt controller module, Door Maglock, Door Closure and all necessary accessories to complete their installation and which must be compatible and shall be linked to existing GENETIC network (per door).	No	2				
E	32 Inch 1080P LED Monitor C/W mount accessories	No.	1				
F	Gig Ethernet To Gig rack-mount Fiber optic Media Converter 30km Range industrial type	No.	2				
	<b>Total Carried to Collection New Industrial Substation page 1</b>						

Bill of Quantities New Industrial Substation Page 2							
No	Item Description	Unit	QTY	Country of origin	Rate in KES(Vat Exc)	Amount	Part Numbers
F	Allow for cabling, ducting and necessary accessories	LOT	1				
G	Network Devices accessories&cabinets-1-Edge sitches,0 core switch	LOT	1				
H	3 Kva true online UPS	NO	1				
J	Allow for integration of the system to existing GENETIC server	LOT	1				
K	Installation, Testing and Commissioning to client satisfaction	LOT	1				
L	Biometric Access Control cards	No.	200				
	Total Carried to Collection New Industrial Substation page 2						

	SUMMARY PAGE NEW INDUSTRIAL SUBSTATION-IP- CCTV &ACCESS CONTROL CCTV BILL OF QUANTITIES		
	Total Carried to collection Page 1 New Industrial Substation		
	Total Carried to collection Page 2 New Industrial Substation		
	SUB-TOTAL-NEW INDUSTRIAL SUBSTATION-IP- CCTV &ACCESS		



**CATEGORY 4: SECURITY SYSTEMS FOR FACILITIES AND INFRASTRUCTURE**
**KIKUYU SUBSTATION IP- CCTV &ACCESS CONTROL**

No	Item Description	Unit	QTY	Country of origin	Rate in KES(Vat Exc)	Amount	Part Numbers
						KES(Vat Exc)	
A	5 MPX, WDR Fixed Dome Camera	No.	10				
B	16-Channel NVR and storage Server upto 12TB	No.	1				
C	Genetec Video License (per Camera).	No.	10				
D	IP Access Control System <b>TYPE A</b> at Entry (Proximity Reader) and Exit (Proximity Reader) complete with IP readers with inbuilt controller module, Door Maglock, Door Closure and all necessary accessories to complete their installation and which must be compatible and shall be linked to existing GENETIC network (per door).	No	2				
E	32 Inch 1080P LED Monitor C/W mount accessories	No.	1				
F	Gig Ethernet To Gig rack-mount Fiber optic Media Converter 30km Range industrial type	No.	2				
	<b>Total Carried to Collection Kikuyu Substation page 1</b>						

Bill of Quantities Kikuyu Substation Page 2							
No	Item Description	Unit	QTY	Countr y of origin	Rate in KES(Vat Exc)	Amount	Part Numb ers
G	Allow for cabling, ducting and necessary accessories	LOT	1				
H	Network Devices accessories&cabinets-1-Edge sitches,0 core switch	LOT	1				
I	3 Kva true online UPS	NO	1				
J	1.5 Kva true online UPS	NO					
K	Allow for integration of the system to existing GENETIC server	LOT	1				
L	Installation, Testing and Commissioning to client satisfaction	LOT	1				
M	Biometric Access Control cards	No.	200				
	Total Carried to Collection Kikuyu Substation page 2						

	SUMMARY PAGE NEW INDUSTRIAL SUBSTATION-IP- CCTV &ACCESS CONTROL CCTV BILL OF QUANTITIES		
	Total Carried to collection Page 1 Kikuyu Substation		
	Total Carried to collection Page 2 Kikuyu Substation		
	SUB-TOTAL-KIKUYU SUBSTATION-IP- CCTV &ACCESS		

**CATEGORY 4: SECURITY SYSTEMS FOR FACILITIES AND INFRASTRUCTURE**
**NYAHURURU DEPOT/ SUBSTATION IP- CCTV &ACCESS CONTROL**

No	Item Description	Unit	QTY	Country of origin	Rate in KES(Vat Exc)	Amount	Part Numbers
						KES(Vat Exc)	
A	5 MPX, WDR Fixed Dome Camera	No.	16				
B	32-Channel NVR and storage Server upto 12TB	No.	1				
C	Genetec Video License (per Camera).	No.	16				
D	IP Access Control System <b>TYPE B</b> at Entry (Fingerprint Reader) and Exit (Proximity Reader) complete with IP readers with inbuilt controller module, Door Maglock, Door Closure and all necessary accessories to complete their installation and which must be compatible and shall be linked to existing GENETIC network (per door).	No	1				
E	32 Inch 1080P LED Monitor C/W mount accessories	No.	1				
F	Gig Ethernet To Gig rack-mount Fiber optic Media Converter 30km Range industrial type	No.	2				
<b>Total Carried to Collection Nyahururu Depot/ Substation page 1</b>							

Bill of Quantities Nyahururu Depot/ Substation Page 2							
No	Item Description	Unit	QTY	Countr y of origin	Rate in KES(Vat Exc)	Amount	Part Numb ers
G	Allow for cabling, ducting and necessary accessories	LOT	1				
H	Network Devices accessories&cabinets-2-Edge sitches,0 core switch	LOT	1				
I	3 Kva true online UPS	NO	1				
J	1.5 Kva true online UPS	NO	1				
K	Allow for integration of the system to existing GENETIC server	LOT	1				
N	Installation, Testing and Commissioning to client satisfaction	LOT	1				
O	Biometric Access Control cards	No.	200				
	<b>Total Carried to Collection Nyahururu Depot/Substation page 2</b>						

	SUMMARY PAGE NYAHURURU DEPOT/ SUBSTATION-IP- CCTV &ACCESS CONTROL CCTV BILL OF QUANTITIES		
	<b>Total Carried to collection Page 1 Nyahururu Depot/Substation</b>		
	<b>Total Carried to collection Page 2 Nyahururu Depot/Substation</b>		
	<b>SUB-TOTAL-NYAHURURU DEPOT/ SUBSTATION-IP- CCTV &amp;ACCESS</b>		

**CATEGORY 4: SECURITY SYSTEMS FOR FACILITIES AND INFRASTRUCTURE**
**KILIFI DEPOT/ SUBSTATION IP- CCTV &ACCESS CONTROL**

No	Item Description	Unit	QTY	Country of origin	Rate in KES(Vat Exc)	Amount	Part Numbers
						KES(Vat Exc)	
A	5 MPX, WDR Fixed Dome Camera	No.	4				
B	2MPX PTZ Camera	No.	1				
C	5 MPX, WDR Fixed Bullet Camera	No.	14				
D	32-Channel NVR and storage Server upto 30TB	No.	1				
E	Genetec Video License (per Camera).	No.	19				
F	IP Access Control System <b>TYPE B</b> at Entry (Fingerprint Reader) and Exit (Proximity Reader) complete with IP readers with inbuilt controller module, Door Maglock, Door Closure and all necessary accessories to complete their installation and which must be compatible and shall be linked to existing GENETIC network (per door).	No	3				
G	40 Inch 1080P LED Monitor C/W mount accessories	No.	1				
H	Gig Ethernet To Gig rack-mount Fiber optic Media Converter 30km Range industrial type	No.	2				
	<b>Total Carried to Collection Kilifi Depot/ Substation page 1</b>						

Bill of Quantities Kilifi Depot/ Substation Page 2							
No	Item Description	Unit	QTY	Country of origin	Rate in KES(Vat Exc)	Amount	Part Numbers
I	Allow for cabling, ducting,Poles and necessary accessories	LOT	1				
J	Network Devices accessories&cabinets-2-Edge sitches,0 core switch	LOT	1				
K	3 Kva true online UPS	NO	2				
L	Allow for integration of the system to existing GENETIC server	LOT	1				
M	Installation, Testing and Commissioning to client satisfaction	LOT	1				
N	Biometric Access Control cards	No.	200				
	Total Carried to Collection Kilifi Depot/Substation page 2						

	<b>SUMMARY PAGE KILIFI DEPOT/ SUBSTATION-IP- CCTV &amp;ACCESS CONTROL CCTV BILL OF QUANTITIES</b>		
	<b>Total Carried to collection Page 1 Kilifi Depot/Substation</b>		
	<b>Total Carried to collection Page 2 Kilifi Depot/Substation</b>		
	<b>SUB-TOTAL-KILIFI DEPOT/ SUBSTATION-IP- CCTV &amp;ACCESS</b>		

**CATEGORY 4: SECURITY SYSTEMS FOR FACILITIES AND INFRASTRUCTURE**
**HOMABAY STORES IP- CCTV &ACCESS CONTROL**

No	Item Description	Unit	QTY	Country of origin	Rate in KES(Vat Exc)	Amount	Part Numbers
						KES(Vat Exc)	
A	5 MPX, WDR Fixed Dome Camera	No.	12				
B	24-Channel NVR and storage Server upto 30TB	No.	1				
C	Genetec Video License (per Camera).	No.	12				
D	IP Access Control System <b>TYPE A</b> at Entry (Proximity Reader) and Exit (Proximity Reader) complete with IP readers with inbuilt controller module, Door Maglock, Door Closure and all necessary accessories to complete their installation and which must be compatible and shall be linked to existing GENETIC network (per door).	No	2				
E	40 Inch 1080P LED Monitor C/W mount accessories	No.	1				
F	Gig Ethernet To Gig rack-mount Fiber optic Media Converter 30km Range industrial type	No.	2				
	<b>Total Carried to Collection Homabay Stores page 1</b>						

Bill of Quantities Homabay Stores Page 2							
No	Item Description	Unit	QTY	Countr y of origin	Rate in KES(Vat Exc)	Amount	Part Numb ers
G	Allow for cabling, ducting, Poles and necessary accessories	LOT	1				
H	Network Devices accessories&cabinets-2-Edge sitches	LOT	1				
I	3 Kva true online UPS	NO	1				
J	Allow for integration of the system to existing GENETIC server	LOT	1				
K	Installation, Testing and Commissioning to client satisfaction	LOT	1				
L	Biometric Access Control cards	No.	200				
	Total Carried to Collection Homabay Stores page 2						

SUMMARY PAGE HOMABAY STORES-IP- CCTV &ACCESS CONTROL CCTV BILL OF QUANTITIES			
	Total Carried to collection Page 1 Homabay Stores		
	Total Carried to collection Page 2 Homabay Stores		
	SUB-TOTAL-HOMABAY STORES-IP- CCTV &ACCESS		



**CATEGORY 4: SECURITY SYSTEMS FOR FACILITIES AND INFRASTRUCTURE**
**NJORO SUBSTATION IP- CCTV &ACCESS CONTROL**

No	Item Description	Unit	QTY	Country of origin	Rate in KES(Vat Exc)	Amount	Part Numbers
						KES(Vat Exc)	
A	5 MPX, WDR Fixed Dome Camera	No.	10				
B	16-Channel NVR and storage Server upto 12TB	No.	1				
C	Genetec Video License (per Camera).	No.	10				
D	IP Access Control System <b>TYPE A</b> at Entry (Proximity Reader) and Exit (Proximity Reader) complete with IP readers with inbuilt controller module, Door Maglock, Door Closure and all necessary accessories to complete their installation and which must be compatible and shall be linked to existing GENETIC network (per door).	No	2				
E	32 Inch 1080P LED Monitor C/W mount accessories	No.	1				
F	Gig Ethernet To Gig rack-mount Fiber optic Media Converter 30km Range industrial type	No.	2				
	<b>Total Carried to Collection Njoro Substation page 1</b>						

Bill of Quantities Njoro Substation Page 2							
No	Item Description	Unit	QTY	Countr y of origin	Rate in KES(Vat Exc)	Amount	Part Numb ers
G	Allow for cabling, ducting and necessary accessories	LOT	1				
H	Network Devices accessories&cabinets-1-Edge sitches,0 core switch	LOT	1				
I	3 Kva true online UPS	NO	1				
J	Allow for integration of the system to existing GENETIC server	LOT	1				
K	Installation, Testing and Commissioning to client satisfaction	LOT	1				
L	Biometric Access Control cards	No.	200				
	<b>Total Carried to Collection Njoro Substation page 2</b>						

	SUMMARY PAGE NJORO SUBSTATION SUBSTATION-IP- CCTV &ACCESS CONTROL CCTV BILL OF QUANTITIES		
	<b>Total Carried to collection Page 1 Njoro Substation</b>		
	<b>Total Carried to collection Page 2 Njoro Substation</b>		
	<b>SUB-TOTAL-NJORO SUBSTATION-IP- CCTV &amp;ACCESS</b>		

**CATEGORY 4: SECURITY SYSTEMS FOR FACILITIES AND INFRASTRUCTURE**
**EMALI OFFICE IP- CCTV &ACCESS CONTROL**

No	Item Description	Unit	QTY	Country of origin	Rate in KES(Vat Exc)	Amount	Part Numbers
						KES(Vat Exc)	
A	5 MPX, WDR Fixed Dome Camera	No.	5				
B	16-Channel NVR and storage Server upto 12TB	No.	1				
C	Genetec Video License (per Camera).	No.	5				
D	IP Access Control System <b>TYPE B</b> at Entry (Fingerprint Reader) and Exit (Proximity Reader) complete with IP readers with inbuilt controller module, Door Maglock, Door Closure and all necessary accessories to complete their installation and which must be compatible and shall be linked to existing GENETIC network (per door).	No	2				
E	32 Inch 1080P LED Monitor C/W mount accessories	No.	1				
F	Gig Ethernet To Gig rack-mount Fiber optic Media Converter 30km Range industrial type	No.	2				
	<b>Total Carried to Collection Emali Office page 1</b>						

Bill of Quantities Emali Office Page 2							
No	Item Description	Unit	QTY	Country of origin	Rate in KES(Vat Exc)	Amount	Part Numbers
G	Allow for cabling, ducting and necessary accessories	LOT	1				
H	Network Devices accessories&cabinets-1-Edge sitches,0 core switch	LOT	1				
J	1.5 Kva true online UPS	NO	1				
K	Allow for integration of the system to existing GENETIC server	LOT	1				
L	Installation, Testing and Commissioning to client satisfaction	LOT	1				
M	Biometric Access Control cards	No.	200				
	Total Carried to Collection Emali Office page 2						

	SUMMARY PAGE EMALI OFFICE-IP- CCTV &ACCESS CONTROL CCTV BILL OF QUANTITIES		
	Total Carried to collection Page 1 Emali Office		
	Total Carried to collection Page 2 Emali Office		
	SUB-TOTAL-EMALI OFFICE-IP- CCTV &ACCESS		

**CATEGORY 4: SECURITY SYSTEMS FOR FACILITIES AND INFRASTRUCTURE**
**GARRISA OFFICE IP- CCTV &ACCESS CONTROL**

No	Item Description	Unit	QTY	Country of origin	Rate in KES(Vat Exc)	Amount	Part Numbers
						KES(Vat Exc)	
A	5 MPX, WDR Fixed Dome Camera	No.	10				
B	16-Channel NVR and storage Server upto 12TB	No.	1				
C	Genetec Video License (per Camera).	No.	10				
D	IP Access Control System <b>TYPE B</b> at Entry (Fingerprint Reader) and Exit (Proximity Reader) complete with IP readers with inbuilt controller module, Door Maglock, Door Closure and all necessary accessories to complete their installation and which must be compatible and shall be linked to existing GENETIC network (per door).	No	2				
E	32 Inch 1080P LED Monitor C/W mount accessories	No.	1				
F	Gig Ethernet To Gig rack-mount Fiber optic Media Converter 30km Range industrial type	No.	2				
	<b>Total Carried to Collection Garrisa Office page 1</b>						

Bill of Quantities Garrisa Office Page 2							
No	Item Description	Unit	QTY	Country of origin	Rate in KES(Vat Exc)	Amount	Part Numbers
G	Allow for cabling, ducting and necessary accessories	LOT	1				
H	Network Devices accessories&cabinets-1-Edge sitches,0 core switch	LOT	1				
I	3 Kva true online UPS	NO	1				
J	Allow for integration of the system to existing GENETIC server	LOT	1				
K	Installation, Testing and Commissioning to client satisfaction	LOT	1				
L	Biometric Access Control cards	No.	200				
	Total Carried to Collection Garrisa Office page 2						

	SUMMARY PAGE GARRISA OFFICE-IP- CCTV &ACCESS CONTROL CCTV BILL OF QUANTITIES		
	Total Carried to collection Page 1 Garrisa Office		
	Total Carried to collection Page 2 Garrisa Office		
	SUB-TOTAL-GARRISA OFFICE-IP- CCTV &ACCESS		

**CATEGORY 4: SECURITY SYSTEMS FOR FACILITIES AND INFRASTRUCTURE**
**ATHI RIVER SUBSTATION CCTV**

Bill of Quantities Athi River Substation Page 1							
No	Item Description	Unit	QTY	Country of origin	Rate in KES(Vat Exc)	Amount	Part Numbers
						KES(Vat Exc)	
B	5 MPX, WDR Fixed Dome Camera	No.	10				
	16-Channel NVR and storage Server upto 12TB	No.	1				
E	Genetec Video License (per Camera).	No.	10				
F	IP Access Control System <b>TYPE A</b> at Entry (Proximity Reader) and Exit (Proximity Reader) complete with IP readers with inbuilt controller module, Door Maglock, Door Closure and all necessary accessories to complete their installation and which must be compatible and shall be linked to existing GENETIC network (per door).	No	2				
	32 Inch 1080P LED Monitor C/W mount accessories	No.	1				
H	Gig Ethernet To Gig rack-mount Fiber optic Media Converter 30km Range industrial type	No.	2				
	<b>Total Carried to Collection Athi River page 1</b>						

Bill of Quantities Athi River Page 2							
No	Item Description	Unit	QTY	Country of origin	Rate in KES(Vat Exc)	Amount	Part Numbers
J	Allow for cabling, ducting and necessary accessories	LOT	1				
K	Network Devices accessories&cabinets-1-Edge sitches,0 core switch	LOT	1				
M	3 Kva true online UPS	NO	1				
P	Allow for integration of the system to existing GENETIC server	LOT	1				
Q	Installation, Testing and Commissioning to client satisfaction	LOT	1				
R	Biometric Access Control cards	No.	200				
	Total Carried to Collection Athi River page 2						

	<b>SUMMARY PAGE ATHI RIVER SUBSTATION-IP- CCTV &amp;ACCESS CONTROL CCTV BILL OF QUANTITIES</b>		
	Total Carried to collection Page 1 Athi River substation		
	Total Carried to collection Page 2 Athi River Substation		
	<b>SUB-TOTAL-ATHI RIVER SUBSTATION-IP- CCTV &amp;ACCESS</b>		



## CATEGORY 4: SECURITY SYSTEMS FOR FACILITIES AND INFRASTRUCTURE

### TECHNICAL TRAINING

Bill of Quantities Category 4-Technical Training Page 1							
No	Item Description	Unit	QTY	Country of origin	Rate in KES(Vat Exc)	Amount	Part Numbers
A	Manufacturers Training-3no technical persons (Factor only the cost of training i.e venue ,trainers, transport to and from the training venue and certification)	LOT	1				
	Total Carried to collection Bill of Quantities Category 4-Technical Training Page 1						

	<b>SUMMARY PAGE CATEGORY 4 BILL OF QUANTITIES: SECURITY SYSTEMS FOR FACILITIES AND INFRASTRUCTURE</b>		
	Sub-total- Machakos Substation CCTV IP- CCTV & Access control		
	Sub-total- New Industrial Substation CCTV IP- CCTV & Access control		
	Sub-total- kikuyu Substation CCTV IP- CCTV & Access control		
	Sub-total- Nyahururu stores/ Substation CCTV IP- CCTV & Access control		
	Sub-total- Kilifi Substation CCTV IP- CCTV & Access control		
	Sub-total- Homabay Stores CCTV IP- CCTV & Access control		
	Sub-total- Njoro Substation CCTV IP- CCTV & Access control		
	Sub-total- Emali Stores CCTV IP- CCTV & Access control		
	Sub-total- Garissa Office CCTV IP- CCTV & Access control		
	Sub-total- Athi River Substation CCTV IP- CCTV & Access control		
	Total Carried to collection Bill of Quantities Category 4-Technical Training Page 1		
	<b>SUB-TOTAL- SECURITY SYSTEMS FOR FACILITIES AND INFRASTRUCTURE</b>		
	<b>Add 16% Vat</b>		
	<b>SUB-TOTAL</b>		
	<b>GRAND TOTAL- SECURITY SYSTEMS FOR FACILITIES AND INFRASTRUCTURE</b>		

#### CATEGORY 4-RECOMMENDED SCHEDULE OF SPARE PARTS

[illegible]

Name of Tenderer\_\_\_\_\_Signature & Official Stamp

## SECTION VIII (E)– BILLS OF QUANTITIES

(See specifications in a separate section )

### CATEGORY 5: CATEGORY 5: INSTALLATION OF ELECTRIC FENCES &INTRUSION SYSTEM FOR KEY SUBSTATIONS:WESTLANDS SUBSTATION

Bill of Quantities Westlands Substation Page 1							
No	Item Description	Unit	QTY	Count ry of origin	Rate in KES(Vat Exc)	Amount	Part Numbers
						KES(Vat Exc)	
	ELECTRIC FENCE ABOVE MASONRY WALLING The following in electric fence to cover 224m Perimeter comprising 8 strands spaced 100mm centers above the walling and comprising necessary accessories in conformity with relevant standards and general good practice and allow for works to be installed, tested and Commissioned to client's satisfaction with the following :						
A	Adequate mains energizer DRUID 15 Nemtek 4.6J Output or equal and approved complete with back-up battery and Keypad as per the specifications.	No.	1				
B	GSM/IP Module as per detailed specifications	No	1				
C	Lead out under gate cable including excavating in road works with necessary ducting and making good	M	200				
	Total Carried to Collection Westlands Substation page 1						
Bill of Quantities Westlands Substation Page 2							
No	Item Description	Unit	QTY	Country of origin	Rate in KES(Vat Exc)	Amount	Part Numbe rs
A	High tensile 1.6mm fence wire ( HT )	M	2500				

B	<b>Fence Poles</b> Double Galvanized Electroplated, double galvanized square tube 25 x 25 x 1.5mm thick steel Hollow Square Tube for W and S insulators posts with plastic top caps. Apply Metal primer before installing and 2 finishing coats of 1st quality gloss paint "Crown" including embedding 200mm deep in the reinforced columns and walls Complete with metal lugs and approved by the client.	No.	130				
C	<b>Siren Kit complete with box, sounder and strobe</b> 12V,DC Security sounder and strobe with a range of 1 km as per detailed specifications.	No.	1				
D	<b>W-Insulators</b> High density porcelain UV stabilized plastic polythene insulators to adequately cover the installations as per IEE standards	Item	1				
Total Carried to Collection Westlands Substation page 2							

**Bill of Quantities Westlands Substation Page 3**

No	Item Description	Unit	QTY	Country of origin	Rate in KES(Vat Exc)	Amount	Part Numbers
A	<b>Strain –S-insulators</b> STF Black-High density porcelain UV stabilized plastic polythene insulators to adequately cover the installations as per IEE standards	Item	1				
B	Earthing of the Electric fence as per the IEE regulations and to be done at intervals of 30M	Item	1				
C	Hatari signs	No	30				
D	Provide for power and Alarm cable as per IEE Standards	Item	1				
E	Supply and fix Razor wire at the top of the boundary wall conforming to the following specifications:- coil size - 450mm diameter, Blade profile - Ripper Razor Wire, Stretch factor - maximum of 10M per coil and secured with steel plates at 1M centers (Galvanized)	M	291				
F	Allow for maintenance of the electric fence for a period of 1 (one) year done quarterly as per Kplc SLA.	No	4				
<b>Total Carried to Collection Westlands Substation page 3</b>							

Bill of Quantities Westlands Substation Page 4							
No	Item Description	Unit	QTY	Country of origin	Rate in KES(Vat Exc)	Amount	Part Numbers
A	<b>Energizer Cabinet with following specs:</b> Energizer steel cabinet 500x500x250mm fabricated from 25x25x3mm angle line framing and 3mm thick plain sheet with lockable door including painting and mounting to Clients approval.	No.	1				
B	AVS 30A voltage guard	No.	1				
C	Allow for installation, configurations, Training, Testing and Commissioning to clients satisfaction. Installation to include all necessary civil and electrical works. Contractor to submit 3no identical handover box files will all correspondences of works and including drawings, layouts, manuals. To be done in consultation with the client for more details and format.	Item	1				
<b>Total Carried to Collection Westlands Substation page 4</b>							

SUMMARY PAGE WESTLANDS SUBSTATION ELECTRIC FENCE BILL OF QUANTITIES			
	Total Carried to Collection Westlands Substation page 1		
	Total Carried to Collection Westlands Substation page 2		
	Total Carried to Collection Westlands Substation page 3		
	Total Carried to Collection Westlands Substation page 4		
	<b>SUB-TOTAL- WESTLANDS SUBSTATION ELECTRIC FENCE</b>		

**CATEGORY 5: INSTALLATION OF ELECTRIC FENCES & INTRUSION SYSTEM FOR KEY SUBSTATIONS:**

**NAIROBI NORTH SUBSTATION ELECTRIC FENCE**

Bill of Quantities Nairobi North Substation Page 1							
No	Item Description	Unit	QTY	Country of origin	Rate in KES(Vat Exc)	Amount	Part Numbers
						KES(Vat Exc)	
	<b>ELECTRIC FENCE ABOVE MASONRY WALLING</b> The following in electric fence to cover 922m Perimeter comprising 8 strands spaced 100mm centers above the walling and comprising necessary accessories in conformity with relevant standards and general good practice and allow for works to be installed, tested and Commissioned to client's satisfaction with the following :						
A	Adequate mains energizer DRUID Nemtek 8J Output or equal and approved complete with back-up battery and Keypad as per the specifications.	No.	2				
B	GSM/IP Module as per detailed specifications.	No	1				
C	Lead out under gate cable including excavating in road works with necessary ducting and making good No.	M	800				
	<b>Total Carried to Collection Nairobi North Substation page 1</b>						



**Bill of Quantities Nairobi North Substation Page 2**

No	Item Description	Unit	QTY	Country of origin	Rate in KES(Vat Exc)	Amount	Part Numbers
A	<b>High tensile 1.6mm fence wire ( HT )</b>	M	10,000				
B	<b>Fence Poles</b> Double Galvanized Electroplated, double galvanized square tube 25 x 25 x 1.5mm thick steel Hollow Square Tube for W and S insulators posts with plastic top caps. Apply Metal primer before installing and 2 finishing coats of 1st quality gloss paint "Crown" including embedding 200mm deep in the reinforced columns and walls Complete with metal lugs and approved by the client.	No.	430				
C	<b>Siren Kit complete with box, sounder and strobe</b> 12V,DC Security sounder and strobe with a range of 1 km as per detailed specifications.	No.	1				
D	<b>W-Insulators</b> High density porcelain UV stabilized plastic polythene insulators to adequately cover the installations as per IEE standards	Item	1				
<b>Total Carried to Collection Nairobi North Substation page 2</b>							

**Bill of Quantities Nairobi North Substation Page 3**

No	Item Description	Unit	QTY	Country of origin	Rate in KES(Vat Exc)	Amount	Part Numbers
A	<b>Strain –S-insulators</b> STF Black-High density porcelain UV stabilized plastic polythene insulators to adequately cover the installations as per IEE standards	Item	1				
B	Earthing of the Electric fence as per the IEE regulations and to be done at intervals of 30M	Item	1				
C	Hatari signs	No	40				
D	Provide for power and Alarm cable as per IEE Standards	Item	1				
E	Supply and fix Razor wire at the top of the boundary wall conforming to the following specifications:- coil size - 450mm diameter, Blade profile - Ripper Razor Wire, Stretch factor - maximum of 10M per coil and secured with steel plates at 1M centers (Galvanized)	M	430				
F	Allow for maintenance of the electric fence for a period of 1 (one) year done quarterly as per Kplc SLA.	No	4				
<b>Total Carried to Collection Nairobi North Substation page 3</b>							

Bill of Quantities Nairobi North Substation Page 4							
No	Item Description	Unit	QTY	Country of origin	Rate in KES(Vat Exc)	Amount	Part Numbers
A	<b>Energizer Cabinet with following specs:</b> Energizer steel cabinet 500x500x250mm fabricated from 25x25x3mm angle line framing and 3mm thick plain sheet with lockable door including painting and mounting to Clients approval.	No.	1				
B	AVS 30A voltage guard	No.	1				
C	Allow for installation, configurations, Training, Testing and Commissioning to clients satisfaction. Installation to include all necessary civil and electrical works. Contractor to submit 3no identical handover box files will all correspondences of works and including drawings, layouts, manuals. To be done in consultation with the client for more details and format.	Item	1				
<b>Total Carried to Collection Nairobi North Substation page 4</b>							

	<b>SUMMARY PAGE NAIROBI NORTH SUBSTATION ELECTRIC FENCE BILL OF QUANTITIES</b>		
	<b>Total Carried to Collection Nairobi North Substation page 1</b>		
	<b>Total Carried to Collection Nairobi North Substation page 2</b>		
	<b>Total Carried to Collection Nairobi North Substation page 3</b>		
	<b>Total Carried to Collection Nairobi North Substation page 4</b>		
	<b>SUB-TOTAL- NAIROBI NORTH SUBSTATION ELECTRIC FENCE</b>		

**CATEGORY 5: INSTALLATION OF ELECTRIC FENCES & INTRUSION SYSTEM FOR KEY SUBSTATIONS:**

**KIBOKO SUBSTATION ELECTRIC FENCE**

Bill of Quantities Kiboko Substation Page 1							
No	Item Description	Unit	QTY	Country of origin	Rate in KES(Vat Exc)	Amount	Part Numbers
						KES(Vat Exc)	
	FREE-STANDING 16 -Lines elephant protection Electric Fence to cover 423m Perimeter comprising 16 strands spaced 100mm comprising of Well treated Wooden Poles and with necessary accessories in conformity with relevant standards and general good practice and allow for works to be installed, tested and Commissioned to client's satisfaction with the following :						
A	Adequate mains energizer Nemtek minimum 10J Output or equivalent and approved complete with back-up battery and Keypad as per the specifications.	No.	2				
B	GSM/IP Module as per detailed specifications.	No	1				
C	Lead out under gate cable including excavating in road works with necessary ducting and making good No.	M	500				
D	Allow for redesigning while repairing and replacing damaged Concrete Poles upto 30% of existing Poles						
	<b>Total Carried to Collection Kiboko Substation page 1</b>						

Bill of Quantities Kiboko Substation Page 2							
No	Item Description	Unit	QTY	Country of origin	Rate in KES(Vat Exc)	Amount	Part Numbers
A	<b>High tensile 2.5mm fence wire ( HT )</b>	M	6598				
B	<b>Fence Poles</b> Allow for well treated Elephant wooden poles as per Elephant protection Electric fence standards	No.	183				
C	<b>Siren Kit complete with box, sounder and strobe</b> 12V,DC Security sounder and strobe with a range of 1 km as per detailed specifications.	No.	1				
D	<b>W-Insulators</b> High density porcelain UV stabilized plastic polythene insulators to adequately cover the installations as per IEE standards	Item	1				
E	<b>Allow for redesigning and reconstructing existing Chain Link with new one while utilizing upto 50% of existing .</b>						
	<b>Total Carried to Collection Kiboko Substation page 2</b>						

**Bill of Quantities Kiboko Substation Page 3**

No	Item Description	Unit	QTY	Country of origin	Rate in KES(Vat Exc)	Amount	Part Numbers
A	<b>Strain –S-insulators</b> STF Black-High density porcelain UV stabilized plastic polythene insulators to adequately cover the installations as per IEE standards	Item	1				
B	Earthing of the Electric fence as per the IEE regulations and to be done at intervals of 30M	Item	1				
C	Hatari signs	No	40				
D	Provide for power and Alarm cable as per IEE Standards	Item	1				
E	Supply and fix Razor wire along the free- stranding electric fence, conforming to the following specifications:- 980mm diameter coil size Double Galvanized Razor wire ; Blade profile - Ripper Razor Wire; Stretch factor - maximum of 10M per coil and secured with steel plates at 1M centers and with two coatings to prevent rust.	M	550				
F	Allow for maintenance of the electric fence for a period of 1 (one) year done quarterly as per Kplc SLA.	No	4				
<b>Total Carried to Collection Kiboko Substation page 3</b>							

Bill of Quantities Kiboko Substation Page 4							
No	Item Description	Unit	QTY	Country of origin	Rate in KES(Vat Exc)	Amount	Part Numbers
A	<b>Energizer Cabinet with following specs:</b> Energizer steel cabinet 500x500x250mm fabricated from 25x25x3mm angle line framing and 3mm thick plain sheet with lockable door including painting and mounting to Clients approval.	No.	1				
B	AVS 30A voltage guard	No.	1				
C	Allow for installation, configurations, Training, Testing and Commissioning to clients satisfaction. Installation to include all necessary civil and electrical works. Contractor to submit 3no identical handover box files will all correspondences of works and including drawings, layouts, manuals. To be done in consultation with the client for more details and format.	Item	1				
<b>Total Carried to Collection Kiboko Substation page 4</b>							

SUMMARY PAGE KIBOKO SUBSTATION ELECTRIC FENCE BILL OF QUANTITIES			
	Total Carried to Collection Kiboko Substation page 1		
	Total Carried to Collection Kiboko Substation page 2		
	Total Carried to Collection Kiboko Substation page 3		
	Total Carried to Collection Kiboko Substation page 4		
	<b>SUB-TOTAL- KIBOKO SUBSTATION ELECTRIC FENCE</b>		

**CATEGORY 5: INSTALLATION OF ELECTRIC FENCES &INTRUSION SYSTEM FOR KEY SUBSTATIONS:**
**KIPEVU SUBSTATION ELECTRIC FENCE**

Bill of Quantities Kipevu Substation Page 1							
No	Item Description	Unit	QTY	Count ry of origin	Rate in KES(Vat Exc)	Amount	Part Numbers
						KES(Vat Exc)	
	ELECTRIC FENCE ABOVE MASONRY WALLING The following in electric fence to cover 262m Perimeter comprising 8 strands spaced 100mm centers above the walling and comprising necessary accessories in conformity with relevant standards and general good practice and allow for works to be installed, tested and Commissioned to client's satisfaction with the following :						
A	Adequate mains energizer DRUID 15Nemtek 4.6J Output or equal and approved complete with back-up battery and Keypad as per the specifications.	No.	1				
B	GSM/IP Module as per detailed specifications.	No	1				
C	Lead out under gate cable including excavating in road works with necessary ducting and making good No.	M	300				
	<b>Total Carried to Collection Kipevu Substation page 1</b>						



Bill of Quantities Kipevu Substation Page 2							
No	Item Description	Unit	QTY	Count ry of origin	Rate in KES(Vat Exc)	Amount	Part Numbers
A	<b>High tensile 1.6mm fence wire ( HT )</b>	M	2550				
B	<b>Fence Poles</b> Double Galvanized Electroplated, double galvanized square tube 25 x 25 x 1.5mm thick steel Hollow Square Tube for W and S insulators posts with plastic top caps. Apply Metal primer before installing and 2 finishing coats of 1st quality gloss paint "Crown" including embedding 200mm deep in the reinforced columns and walls Complete with metal lugs and approved by the client.	No.	100				
C	<b>Siren Kit complete with box, sounder and strobe</b> 12V,DC Security sounder and strobe with a range of 1 km as per detailed specifications.	No.	1				
D	<b>W-Insulators</b> High density porcelain UV stabilized plastic polythene insulators to adequately cover the installations as per IEE standards	Item	1				
<b>Total Carried to Collection Kipevu Substation page 2</b>							

**Bill of Quantities Kipevu Substation Page 3**

No	Item Description	Unit	QTY	Count ry of origin	Rate in KES(Vat Exc)	Amount	Part Numbers
A	<b>Strain –S-insulators</b> STF Black-High density porcelain UV stabilized plastic polythene insulators to adequately cover the installations as per IEE standards	Item	1				
B	Earthing of the Electric fence as per the IEE regulations and to be done at intervals of 30M	Item	1				
C	Hatari signs	No	30				
D	Provide for power and Alarm cable as per IEE Standards	Item	1				
E	Supply and fix Razor wire at the top of the boundary wall conforming to the following specifications:- coil size - 450mm diameter, Blade profile - Ripper Razor Wire, Stretch factor - maximum of 10M per coil and secured with steel plates at 1M centers (Galvanized)	M	301				
F	Allow for maintenance of the electric fence for a period of 1 (one) year done quarterly as per Kplc SLA.	No	4				
	<b>Total Carried to Collection Kipevu Substation page 3</b>						

Bill of Quantities Kipevu Substation Page 4							
No	Item Description	Unit	QTY	Country of origin	Rate in KES(Vat Exc)	Amount	Part Numbers
A	<b>Energizer Cabinet with following specs:</b> Energizer steel cabinet 500x500x250mm fabricated from 25x25x3mm angle line framing and 3mm thick plain sheet with lockable door including painting and mounting to Clients approval.	No.	1				
B	AVS 30A voltage guard	No.	1				
C	Allow for installation, configurations, Training, Testing and Commissioning to clients satisfaction. Installation to include all necessary civil and electrical works. Contractor to submit 3no identical handover box files will all correspondences of works and including drawings, layouts, manuals. To be done in consultation with the client for more details and format.	Item	1				
<b>Total Carried to Collection Kipevu Substation page 4</b>							

	<b>SUMMARY PAGE KIPEVU SUBSTATION ELECTRIC FENCE BILL OF QUANTITIES</b>		
	<b>Total Carried to Collection Kipevu Substation page 1</b>		
	<b>Total Carried to Collection Kipevu Substation page 2</b>		
	<b>Total Carried to Collection Kipevu Substation page 3</b>		
	<b>Total Carried to Collection Kipevu Substation page 4</b>		
	<b>SUB-TOTAL- KIPEVU SUBSTATION ELECTRIC FENCE</b>		

**CATEGORY 5: INSTALLATION OF ELECTRIC FENCES &INTRUSION SYSTEM FOR KEY SUBSTATIONS:**

**WEBUYE SUBSTATION ELECTRIC FENCE**

Bill of Quantities Webuye Substation Page 1							
No	Item Description	Unit	QTY	Country of origin	Rate in KES(Vat Exc)	Amount	Part Numbers
						KES(Vat Exc)	
	ELECTRIC FENCE ABOVE MASONRY WALLING The following in electric fence to cover 417m Perimeter comprising 8 strands spaced 100mm centers above the walling and comprising necessary accessories in conformity with relevant standards and general good practice and allow for works to be installed, tested and Commissioned to client's satisfaction with the following :						
A	Adequate mains energizer DRUID 15 Nemtek 4.6J Output or equal and approved complete with back-up battery and Keypad as per the specifications.	No.	1				
B	GSM/IP Module as per detailed specifications	No	1				
C	Lead out under gate cable including excavating in road works with necessary ducting and making good	M	200				
	<b>Total Carried to Collection Webuye Substation page 1</b>						

**Bill of Quantities Webuye Substation Page 2**

<b>No</b>	<b>Item Description</b>	<b>Unit</b>	<b>QTY</b>	<b>Country of origin</b>	<b>Rate in KES(Vat Exc)</b>	<b>Amount</b>	<b>Part Numbers</b>
A	<b>High tensile 1.6mm fence wire ( HT )</b>	M	7000				
B	<b>Fence Poles</b> Double Galvanized Electroplated, double galvanized square tube 25 x 25 x 1.5mm thick steel Hollow Square Tube for W and S insulators posts with plastic top caps. Apply Metal primer before installing and 2 finishing coats of 1st quality gloss paint "Crown" including embedding 200mm deep in the reinforced columns and walls Complete with metal lugs and approved by the client.	No.	181				
C	<b>Siren Kit complete with box, sounder and strobe</b> 12V,DC Security sounder and strobe with a range of 1 km as per detailed specifications.	No.	1				
D	<b>W-Insulators</b> High density porcelain UV stabilized plastic polythene insulators to adequately cover the installations as per IEE standards	Item	1				
<b>Total Carried to Collection Webuye Substation page 2</b>							

**Bill of Quantities Webuye Substation Page 3**

No	Item Description	Unit	QTY	Country of origin	Rate in KES(Vat Exc)	Amount	Part Numbers
A	<b>Strain –S-insulators</b> STF Black-High density porcelain UV stabilized plastic polythene insulators to adequately cover the installations as per IEE standards	Item	1				
B	Earthing of the Electric fence as per the IEE regulations and to be done at intervals of 30M	Item	1				
C	Hatari signs	No	45				
D	Provide for power and Alarm cable as per IEE Standards	Item	1				
E	Supply and fix Razor wire along the free- stranding electric fence, conforming to the following specifications:- 980mm diameter coil size Double Galvanized Razor wire ; Blade profile - Ripper Razor Wire; Stretch factor - maximum of 10M per coil and secured with steel plates at 1M centers and with two coatings to prevent rust.	M	417				
F	Allow for maintenance of the electric fence for a period of 1 (one) year done quarterly as per Kplc SLA.	No	4				
<b>Total Carried to Collection Webuye Substation page 3</b>							

Bill of Quantities Webuye Substation Page 4							
No	Item Description	Unit	QTY	Country of origin	Rate in KES(Vat Exc)	Amount	Part Numbers
A	<b>Energizer Cabinet with following specs:</b> Energizer steel cabinet 500x500x250mm fabricated from 25x25x3mm angle line framing and 3mm thick plain sheet with lockable door including painting and mounting to Clients approval.	No.	1				
B	AVS 30A voltage guard	No.	1				
C	Allow for installation, configurations, Training, Testing and Commissioning to clients satisfaction. Installation to include all necessary civil and electrical works. Contractor to submit 3no identical handover box files will all correspondences of works and including drawings, layouts, manuals. To be done in consultation with the client for more details and format.	Item	1				
	<b>Total Carried to Collection Webuye Substation page 4</b>						

	<b>SUMMARY PAGE WEBUYE SUBSTATION ELECTRIC FENCE BILL OF QUANTITIES</b>		
	<b>Total Carried to Collection Webuye Substation page 1</b>		
	<b>Total Carried to Collection Webuye Substation page 2</b>		
	<b>Total Carried to Collection Webuye Substation page 3</b>		
	<b>Total Carried to Collection Webuye Substation page 4</b>		
	<b>SUB-TOTAL- WEBUYE SUBSTATION ELECTRIC FENCE</b>		



**CATEGORY 5: INSTALLATION OF ELECTRIC FENCES &INTRUSION SYSTEM FOR KEY SUBSTATIONS:**
**MAKUYU SUBSTATION ELECTRIC FENCE**

Bill of Quantities Makuyu Substation Page 1							
No	Item Description	Unit	QTY	Country of origin	Rate in KES(Vat Exc)	Amount	Part Numbers
						KES(Vat Exc)	
	ELECTRIC FENCE ABOVE MASONRY WALLING The following in electric fence to cover 297m Perimeter comprising 8 strands spaced 100mm centers above the walling and comprising necessary accessories in conformity with relevant standards and general good practice and allow for works to be installed, tested and Commissioned to client's satisfaction with the following :						
A	Adequate mains energizer DRUID 15 Nemtek 4.6J Output or equal and approved complete with back-up battery and Keypad as per the specifications.	No.	1				
B	GSM/IP Module as per detailed specifications.	No	1				
C	Lead out under gate cable including excavating in road works with necessary ducting and making good	M	200				
	<b>Total Carried to Collection Makuyu Substation page 1</b>						

Bill of Quantities Makuyu Substation Page 2							
No	Item Description	Unit	QTY	Country of origin	Rate in KES(Vat Exc)	Amount	Part Numbers
A	<b>High tensile 1.6mm fence wire ( HT )</b>	M	3088				
B	<b>Fence Poles</b> Double Galvanized Electroplated, double galvanized square tube 25 x 25 x 1.5mm thick steel Hollow Square Tube for W and S insulators posts with plastic top caps. Apply Metal primer before installing and 2 finishing coats of 1st quality gloss paint "Crown" including embedding 200mm deep in the reinforced columns and walls Complete with metal lugs and approved by the client.	No.	130				
C	<b>Siren Kit complete with box, sounder and strobe</b> 12V,DC Security sounder and strobe with a range of 1 km as per detailed specifications.	No.	1				
D	<b>W-Insulators</b> High density porcelain UV stabilized plastic polythene insulators to adequately cover the installations as per IEE standards	Item	1				
<b>Total Carried to Collection Makuyu Substation page 2</b>							

Bill of Quantities Makuyu Substation Page 3							
No	Item Description	Unit	QTY	Country of origin	Rate in KES(Vat Exc)	Amount	Part Numbers
A	<b>Strain –S-insulators</b> STF Black-High density porcelain UV stabilized plastic polythene insulators to adequately cover the installations as per IEE standards	Item	1				
B	Earthing of the Electric fence as per the IEE regulations and to be done at intervals of 30M	Item	1				
C	Hatari signs	No	30				
D	Provide for power and Alarm cable as per IEE Standards	Item	1				
E	Supply and fix Razor wire at the top of the boundary wall conforming to the following specifications:- coil size - 450mm diameter, Blade profile - Ripper Razor Wire, Stretch factor - maximum of 10M per coil and secured with steel plates at 1M centers (Galvanized)	M	386				
F	Allow for maintenance of the electric fence for a period of 1 (one) year done quarterly as per Kplc SLA.	No	4				
<b>Total Carried to Collection Makuyu Substation page 3</b>							

Bill of Quantities Makuyu Substation Page 4							
No	Item Description	Unit	QTY	Country of origin	Rate in KES(Vat Exc)	Amount	Part Numbers
A	<b>Energizer Cabinet with following specs:</b> Energizer steel cabinet 500x500x250mm fabricated from 25x25x3mm angle line framing and 3mm thick plain sheet with lockable door including painting and mounting to Clients approval.	No.	1				
B	AVS 30A voltage guard	No.	1				
C	Allow for installation, configurations, Training, Testing and Commissioning to clients satisfaction. Installation to include all necessary civil and electrical works. Contractor to submit 3no identical handover box files will all correspondences of works and including drawings, layouts, manuals. To be done in consultation with the client for more details and format.	Item	1				
<b>Total Carried to Collection Makuyu Substation page 4</b>							

	<b>SUMMARY PAGE MAKUYU SUBSTATION ELECTRIC FENCE BILL OF QUANTITIES</b>		
	<b>Total Carried to Collection Makuyu Substation page 1</b>		
	<b>Total Carried to Collection Makuyu Substation page 2</b>		
	<b>Total Carried to Collection Makuyu Substation page 3</b>		
	<b>Total Carried to Collection Makuyu Substation page 4</b>		
	<b>SUB-TOTAL- MAKUYU SUBSTATION ELECTRIC FENCE</b>		

**CATEGORY 5: INSTALLATION OF ELECTRIC FENCES &INTRUSION SYSTEM FOR KEY SUBSTATIONS:**

**MAMLAKA SUBSTATION CCTV**

Bill of Quantities Mamlaka Substation Page 1							
No	Item Description	Unit	QTY	Country of origin	Rate in KES(Vat Exc)	Amount	Part Numbers
						KES(Vat Exc)	
A.	5 MPX, WDR Fixed Dome Camera	No.	10				
B.	16-Channel NVR and storage Server upto 12TB	No.	1				
C.	Genetec Video License (per Camera).	No.	10				
D.	IP Access Control System <b>TYPE A</b> at Entry (Proximity Reader) and Exit (Proximity Reader) complete with IP readers with inbuilt controller module, Door Maglock, Door Closure and all necessary accessories to complete their installation and which must be compatible and shall be linked to existing GENETIC network (per door).	No	2				
E.	32 Inch 1080P LED Monitor C/W mount accessories	No.	1				
F.	Gig Ethernet To Gig rack-mount Fiber optic Media Converter 30km Range industrial type	No.	2				
	<b>Total Carried to Collection Mamlaka page 1</b>						

Bill of Quantities Mamlaka Page 2							
No	Item Description	Unit	QTY	Countr y of origin	Rate in KES(Vat Exc)	Amount	Part Numb ers
G.	Allow for cabling, ducting and necessary accessories	LOT	1				
H.	Network Devices accessories&cabinets-1- Edge sitches,0 core switch	LOT	1				
I.	3 Kva true online UPS	NO	1				
J.	Allow for integration of the system to existing GENETIC server	LOT	1				
K.	Installation, Testing and Commissioning to client satisfaction	LOT	1				
L	Biometric Access Control cards	No.	200				
	Total Carried to Collection Mamlaka page 2						

SUMMARY PAGE MAMLAKA SUBSTATION-IP- CCTV &ACCESS CONTROL CCTV BILL OF QUANTITIES			
	Total Carried to collection Page 1 Mamlaka Substation		
	Total Carried to collection Page 2 Mamlaka Substation		
	SUB-TOTAL-MAMLAKA SUBSTATION-IP- CCTV &ACCESS		

**CATEGORY 5: INSTALLATION OF ELECTRIC FENCES &INTRUSION SYSTEM FOR KEY SUBSTATIONS:**
**THIKA INDUSTRIAL SUBSTATION CCTV**

Bill of Quantities Thika Industrial Substation Page 1							
No	Item Description	Unit	QTY	Country of origin	Rate in KES(Vat Exc)	Amount	Part Numbers
						KES(Vat Exc)	
A.	5 MPX, WDR Fixed Dome Camera	No.	10				
B.	16-Channel NVR and storage Server upto 12TB	No.	1				
C.	Genetec Video License (per Camera).	No.	10				
D.	IP Access Control System <b>TYPE A</b> at Entry (Proximity Reader) and Exit (Proximity Reader) complete with IP readers with inbuilt controller module, Door Maglock, Door Closure and all necessary accessories to complete their installation and which must be compatible and shall be linked to existing GENETIC network (per door).	No	2				
E.	40 Inch 1080P LED Monitor C/W mount accessories	No.	0				
F.	32 Inch 1080P LED Monitor C/W mount accessories	No.	1				
G.	Gig Ethernet To Gig rack-mount Fiber optic Media Converter 30km Range industrial type	No.	2				
	<b>Total Carried to Collection Thika Industrial page 1</b>						



Bill of Quantities Thika Industrial Page 2							
No	Item Description	Unit	QTY	Country of origin	Rate in KES(Vat Exc)	Amount	Part Numbers
J	Allow for cabling, ducting and necessary accessories	LOT	1				
K	Network Devices accessories&cabinets-1-Edge sitches,0 core switch	LOT	1				
M	3 Kva true online UPS	NO	1				
N	Allow for integration of the system to existing GENETIC server	LOT	1				
O	Installation, Testing and Commissioning to client satisfaction	LOT	1				
P	Biometric Access Control cards	No.	200				
	Total Carried to Collection Thika Industrial page 2						

	SUMMARY PAGE THIKA INDUSTRIAL SUBSTATION-IP- CCTV &ACCESS CONTROL CCTV BILL OF QUANTITIES		
	Total Carried to collection Page 1 Thika Industrial Substation		
	Total Carried to collection Page 2 Thika Industrial Substation		
	SUB-TOTAL-THIKA INDUSTRIAL SUBSTATION-IP- CCTV &ACCESS		

**CATEGORY 5: INSTALLATION OF ELECTRIC FENCES &INTRUSION SYSTEM FOR KEY SUBSTATIONS:**

**SARMACH SUBSTATION CCTV**

Bill of Quantities Sarmach Substation Page 1							
No	Item Description	Unit	QTY	Country of origin	Rate in KES(Vat Exc)	Amount	Part Numbers
						KES(Vat Exc)	
A.	5 MPX, WDR Fixed Dome Camera	No.	10				
B.	16-Channel NVR and storage Server upto 12TB	No.	1				
C.	Genetec Video License (per Camera).	No.	10				
D.	IP Access Control System <b>TYPE A</b> at Entry (Proximity Reader) and Exit (Proximity Reader) complete with IP readers with inbuilt controller module, Door Maglock, Door Closure and all necessary accessories to complete their installation and which must be compatible and shall be linked to existing GENETIC network (per door).	No	2				
E.	32 Inch 1080P LED Monitor C/W mount accessories	No.	1				
F.	Gig Ethernet To Gig rack-mount Fiber optic Media Converter 30km Range industrial type	No.	2				
	<b>Total Carried to Collection Sarmach page 1</b>						

Bill of Quantities Sarmach Page 2							
No	Item Description	Unit	QTY	Country of origin	Rate in KES(Vat Exc)	Amount	Part Numbers
G.	Allow for cabling, ducting and necessary accessories	LOT	1				
H.	Network Devices accessories&cabinets-1-Edge sitches,0 core switch	LOT	1				
I.	3 Kva true online UPS	NO	1				
J.	Allow for integration of the system to existing GENETIC server	LOT	1				
K.	Installation, Testing and Commissioning to client satisfaction	LOT	1				
L	Biometric Access Control cards	No.	200				
Total Carried to Collection Sarmach page 2							

SUMMARY PAGE SARMACH SUBSTATION-IP- CCTV &ACCESS CONTROL CCTV BILL OF QUANTITIES			
	Total Carried to collection Page 1 Sarmach Substation		
	Total Carried to collection Page 2 Sarmach Substation		
	SUB-TOTAL-SARMACH SUBSTATION-IP- CCTV &ACCESS		

**CATEGORY 5: INSTALLATION OF ELECTRIC FENCES &INTRUSION SYSTEM FOR KEY SUBSTATIONS:**

**VILLA FRANCA SUBSTATION CCTV**

Bill of Quantities Villa Franca Substation Page 1							
No	Item Description	Unit	QTY	Country of origin	Rate in KES(Vat Exc)	Amount	Part Numbers
						KES(Vat Exc)	
B	5 MPX, WDR Fixed Dome Camera	No.	10				
	16-Channel NVR and storage Server upto 12TB	No.	1				
E	Genetec Video License (per Camera).	No.	10				
F	IP Access Control System <b>TYPE A</b> at Entry (Proximity Reader) and Exit (Proximity Reader) complete with IP readers with inbuilt controller module, Door Maglock, Door Closure and all necessary accessories to complete their installation and which must be compatible and shall be linked to existing GENETIC network (per door).	No	2				
	32 Inch 1080P LED Monitor C/W mount accessories	No.	1				
H	Gig Ethernet To Gig rack-mount Fiber optic Media Converter 30km Range industrial type	No.	2				
	<b>Total Carried to Collection Villa Franca page 1</b>						

Bill of Quantities Villa Franca Page 2							
No	Item Description	Unit	QTY	Country of origin	Rate in KES(Vat Exc)	Amount	Part Numbers
J	Allow for cabling, ducting and necessary accessories	LOT	1				
K	Network Devices accessories&cabinets- 1-Edge sitches,0 core switch	LOT	1				
M	3 Kva true online UPS	NO	1				
N	Allow for integration of the system to existing GENETIC server	LOT	1				
O	Installation, Testing and Commissioning to client satisfaction	LOT	1				
P	Biometric Access Control cards	No.	200				
	Total Carried to Collection Villa Franca page 2						

	SUMMARY PAGE VILLA FRANCA SUBSTATION-IP- CCTV &ACCESS CONTROL CCTV BILL OF QUANTITIES		
	Total Carried to collection Page 1 Villa Franca Substation		
	Total Carried to collection Page 2 Villa Franca Substation		
	SUB-TOTAL-VILLA FRANCA SUBSTATION-IP- CCTV &ACCESS		

**CATEGORY 5: INSTALLATION OF ELECTRIC FENCES &INTRUSION SYSTEM FOR KEY SUBSTATIONS:**

**WESTLANDS SUBSTATION CCTV**

Bill of Quantities Westlands Substation Page 1							
No	Item Description	Unit	QTY	Country of origin	Rate in KES(Vat Exc)	Amount	Part Numbers
						KES(Vat Exc)	
B	5 MPX, WDR Fixed Dome Camera	No.	10				
	16-Channel NVR and storage Server upto 12TB	No.	1				
E	Genetec Video License (per Camera).	No.	10				
F	IP Access Control System <b>TYPE A</b> at Entry (Proximity Reader) and Exit (Proximity Reader) complete with IP readers with inbuilt controller module, Door Maglock, Door Closure and all necessary accessories to complete their installation and which must be compatible and shall be linked to existing GENETIC network (per door).	No	2				
	32 Inch 1080P LED Monitor C/W mount accessories	No.	1				
H	Gig Ethernet To Gig rack-mount Fiber optic Media Converter 30km Range industrial type	No.	2				
	<b>Total Carried to Collection Westlands page 1</b>						

Bill of Quantities Westlands Page 2							
No	Item Description	Unit	QTY	Countr y of origin	Rate in KES(Vat Exc)	Amount	Part Numb ers
J	Allow for cabling, ducting and necessary accessories	LOT	1				
K	Network Devices accessories&cabinets- 1-Edge sitches,0 core switch	LOT	1				
M	3 Kva true online UPS	NO	1				
N	Allow for integration of the system to existing GENETIC server	LOT	1				
O	Installation, Testing and Commissioning to client satisfaction	LOT	1				
P	Biometric Access Control cards	No.	200				
	<b>Total Carried to Collection Westlands page 2</b>						

SUMMARY PAGE WESTLANDS SUBSTATION-IP- CCTV &ACCESS CONTROL CCTV BILL OF QUANTITIES			
	<b>Total Carried to collection Page 1 Westlands substation</b>		
	<b>Total Carried to collection Page 2 Westlands Substation</b>		
	<b>SUB-TOTAL-WESTLANDS SUBSTATION-IP- CCTV &amp;ACCESS</b>		

**CATEGORY 5: INSTALLATION OF ELECTRIC FENCES &INTRUSION SYSTEM FOR KEY SUBSTATIONS  
TECHNICAL TRAINING**

Bill of Quantities Category 5-Technical Training Page 1							
No	Item Description	Unit	QTY	Country of origin	Rate in KES(Vat Exc)	Amount	Part Numbers
A	Manufacturers Training-3no technical persons (Factor only the cost of training i.e venue ,trainers, transport to and from the training venue and certification)	LOT	1				
	<b>Total Carried to collection Bill of Quantities Category 5- Technical Training Page 1</b>						



	<b>SUMMARY PAGE CATEGORY 5 BILL OF QUANTITIES: INSTALLATION OF ELECTRIC FENCES &amp; INTRUSION SYSTEM FOR KEY SUBSTATIONS</b>		
	Sub-Total Westlands Substation Electric Fence		
	Sub-Total Westlands Substation Electric Fence		
	Sub-Total Nairobi North Substation Electric Fence		
	Sub-Total Kiboko Substation Electric Fence		
	Sub-Total Kipevu Substation Electric Fence		
	Sub-Total Webuye Substation Electric Fence		
	Sub-Total Mamlaka Substation CCTV & Access		
	Sub-Total Kipevu Substation CCTV & Access		
	Sub-Total Mamlaka Substation CCTV & Access		
	Sub-Total Thika industrial Substation CCTV & Access		
	Sub-Total Sarmat Substation CCTV & Access		
	Sub-Total Villa Franka Substation CCTV & Access		
	Sub-Total Westlands Substation CCTV & Access		
	Sub-Total Makkuyu Substation Electric Fence		
	Sub-total Total Carried to collection Bill of Quantities Category 5-Technical Training Page 1		
	<b>SUB-TOTAL- SECURITY SYSTEMS FOR FACILITIES AND INFRASTRUCTURE</b>		
	<b>Add 16% Vat</b>		
	<b>SUB-TOTAL</b>		
	<b>GRAND TOTAL- CATEGORY 5: INSTALLATION OF ELECTRIC FENCES &amp; INTRUSION SYSTEM FOR KEY SUBSTATIONS</b>		

### CATEGORY 5-RECOMMENDED SCHEDULE OF SPARE PARTS

[illegible]

Name of Tenderer\_\_\_\_\_Signature & Official Stamp

## SECTION VIII (F)–BILLS OF QUANTITIES

(See specifications in a separate section )

### CATEGORY 6: INSTALLATION OF INTRUDER ALARMS/INTRUSION DETECTION SYSTEMS COMMERCIAL OFFICES

#### ELDOROT DEPOT STORES/OFFICE ALARMS BILL OF QUANTITIES PAGE 1

ITEM	DESCRIPTION	UNIT	QTY	RATE	KSHS
<b>A</b>	<b>CONTROL PANEL WITH SOFTWARE AND PROGRAMMING</b> 16-zones input expandable to more than 40 zones and with Keypad zones LCD Keypad with infrared receiver and battery as <b>Pro - Sys 128</b> or equal and approved. At least more than 4-zones partitioning Accommodate more than 50 user codes 4 or more PGM (programmable output) Allow for IP Module and GSM connection to interface with computers, printer and other computer networks. GSM connectivity to allow events communication via mobile	NO	1		
<b>B</b>	<b>MOTION DETECTORS (PIR)</b> Indoor Dual element sensor. 12m (40ft), 110 view angle. False alarms reduction facilities. Interlock sensor geometry. Automatic temperature compensation. Sensitivity adjustment. Protection from UV rays.	NO	8		
<b>C</b>	<b>POWER SUPPLY UNIT(P.S.U.)</b> Complete with back-up battery (12v, 7AH). Output current 3A. Output voltage 13.6-14vdc on mains power. Load regulation 5% Battery recharges 13 hours.	NO	2		
<b>D</b>	<b>4-Channel LONG RANGE ALARM REMOTE RECEIVER KIT</b> Operating voltage 12vdc. Operating range more than 200m radius. Dip-switch coding facility Momentary/latching relay contacts Complete with two remote buttons.	NO	1		
<b>E</b>	Extra Remotes Buttons	NO	2		
<b>F</b>	<b>SIREN</b> Complete unit with built-in strobe Operating voltage 10-14.5vdc with reverse polarity protection. current(hold-off) siren-230mA(typical) Siren output-11dBA@1M,standby 108dBA@1M. Strobe flash rate-120/min,standby 30/min.	NO	1		
	<b>Total Carried to collection Page 1 Eldoret Depot Alarms</b>				

#### ELDOROT DEPOT STORES/OFFICE ALARMS BILL OF QUANTITIES PAGE 2

ITEM	DESCRIPTION	UNIT	QTY	RATE	KSHS
<b>A</b>	Extra Keypad	NO	1		
<b>E</b>	Cabling, cabinets and associated accessories	Lot	1		
<b>G</b>	<b>PANIC BUTTONS</b> Strong mechanical composition.	No.	4		
<b>H</b>	<b>ADVANCED GSM/GPRS MODULE</b> Central station events reporting Via Voice/sms/E-mail To transmit zone activations and other alarm events such as specific alarm activation zones, arm/disarm users plus time of arm/disarm, loss of power on the system, system failure/restore and others. Support both prepaid and post-paid SIM Cards. Support remote upload and download.	No.	1		
<b>J</b>	Installation, Training testing and commissioning	Lot	1		
<b>K</b>	1 year maintenance of the Alarm systems	Quarter	4		
<b>L</b>	Guard Monitoring unit Complete with 10 Clocking Points as per the Specifications	Lot	1		
<b>M</b>	HD Magnetic Contacts	No	2		
	<b>Total Carried to collection Page 2 Eldoret Depot Alarms</b>				

#### SUMMARY PAGE ELDORET DEPOT STORES/OFFICE ALARMS

No	Item Description	Amount
		KES
<b>A</b>	<b>Total Carried to collection Page 1 Eldoret Depot Alarms</b>	
<b>B</b>	<b>Total Carried to collection Page 2 Eldoret Depot Alarms</b>	
<b>C</b>	<b>Sub-total-2 Intruder Alarms</b>	
	<b>TOTAL CARRIED TO COLLECTION ELDORET DEPOT STORES/OFFICE ALARMS</b>	

**CATEGORY 6: INSTALLATION OF INTRUDER ALARMS/INTRUSION DETECTION SYSTEMS COMMERCIAL OFFICES**

**NAIVASHA BANKING HALL ALARMS BILL OF QUANTITIES PAGE 1**

ITEM	DESCRIPTION	UNIT	QTY	RATE	KSHS
<b>A</b>	<b>CONTROL PANEL WITH SOFTWARE AND PROGRAMMING</b> 16-zones input expandable to more than 40 zones and with Keypad zones LCD Keypad with infrared receiver and battery as <b>Pro - Sys 128</b> or equal and approved. At least more than 4-zones partitioning Accommodate more than 50 user codes 4 or more PGM (programmable output) Allow for IP Module and GSM connection to interface with computers, printer and other computer networks. GSM connectivity to allow events communication via mobile	NO	1		
<b>B</b>	<b>MOTION DETECTORS (PIR)</b> Indoor Dual element sensor. 12m (40ft), 110 view angle. False alarms reduction facilities. Interlock sensor geometry. Automatic temperature compensation. Sensitivity adjustment. Protection from UV rays.	NO	8		
<b>C</b>	<b>POWER SUPPLY UNIT(P.S.U.)</b> Complete with back-up battery (12v, 7AH). Output current 3A. Output voltage 13.6-14vdc on mains power. Load regulation 5% Battery recharges 13 hours.	NO	1		
<b>D</b>	<b>4-Channel LONG RANGE ALARM REMOTE RECEIVER KIT</b> Operating voltage 12vdc. Operating range more than 200m radius. Dip-switch coding facility Momentary/latching relay contacts Complete with two remote buttons.	NO	1		
<b>F</b>	<b>SIREN</b> Complete unit with built-in strobe Operating voltage 10-14.5vdc with reverse polarity protection. current(hold-off) siren-230mA(typical) Siren output-11dBA@1M,standby 108dBA@1M. Strobe flash rate-120/min,standby 30/min.	NO	1		
	<b>Total Carried to collection Page 1 Naivasha Banking Hall Alarms</b>				

ITEM	DESCRIPTION	UNIT	QTY	RATE	KSHS
<b>A</b>	Extra Keypad	NO	1		
<b>E</b>	Cabling, cabinets and associated accessories	Lot	1		
<b>G</b>	<b>PANIC BUTTONS</b> Strong mechanical composition.	No.	11		
<b>H</b>	<b>ADVANCED GSM/GPRS MODULE</b> Central station events reporting Via Voice/sms/E-mail To transmit zone activations and other alarm events such as specific alarm activation zones, arm/disarm users plus time of arm/disarm, loss of power on the system, system failure/restore and others. Support both prepaid and post-paid SIM Cards. Support remote upload and download.	No.	1		
<b>J</b>	Installation, Training testing and commissioning	Lot	1		
<b>K</b>	1 year maintenance of the Alarm systems	Quarter	4		
<b>L</b>	Guard Monitoring unit Complete with 10 Clocking Points as per the Specifications	Lot	1		
<b>M</b>	HD Magnetic Contacts	No	2		
	<b>Total Carried to collection Page 2 Naivasha Banking Hall Alarms</b>				

## SUMMARY PAGE NAIVASHA BANKING HALL ALARMS

No	Item Description	Amount
		KES
<b>A</b>	<b>Total Carried to collection Page 1 Naivasha Banking Hall Alarms</b>	
<b>B</b>	<b>Total Carried to collection Page 2 Naivasha Banking Hall Alarms</b>	
<b>C</b>	<b>Sub-total-2 Naivasha Banking Hall Alarms</b>	
	<b>TOTAL CARRIED TO COLLECTION NAIVASHA BANKING HALL ALARMS</b>	

**CATEGORY 6: INSTALLATION OF INTRUDER ALARMS/INTRUSION DETECTION SYSTEMS COMMERCIAL OFFICES**

**UKUNDA STORES ALARMS BILL OF QUANTITIES PAGE 1**

ITEM	DESCRIPTION	UNIT	QTY	RATE	KSHS
<b>A</b>	<b>CONTROL PANEL WITH SOFTWARE AND PROGRAMMING</b> 16-zones input expandable to more than 40 zones and with Keypad zones LCD Keypad with infrared receiver and battery as <b>Pro - Sys 128</b> or equal and approved. At least more than 4-zones partitioning Accommodate more than 50 user codes 4 or more PGM (programmable output) Allow for IP Module and GSM connection to interface with computers, printer and other computer networks. GSM connectivity to allow events communication via mobile	NO	1		
<b>B</b>	<b>MOTION DETECTORS (PIR)</b> Indoor Dual element sensor. 12m (40ft), 110 view angle. False alarms reduction facilities. Interlock sensor geometry. Automatic temperature compensation. Sensitivity adjustment. Protection from UV rays.	NO	6		
<b>C</b>	<b>POWER SUPPLY UNIT(P.S.U.)</b> Complete with back-up battery (12v, 7AH). Output current 3A. Output voltage 13.6-14vdc on mains power. Load regulation 5% Battery recharges 13 hours.	NO	1		
<b>D</b>	<b>4-Channel LONG RANGE ALARM REMOTE RECEIVER KIT</b> Operating voltage 12vdc. Operating range more than 200m radius. Dip-switch coding facility Momentary/latching relay contacts Complete with two remote buttons.	NO	1		
<b>E</b>	Extra Remotes Buttons	NO	1		
<b>F</b>	<b>SIREN</b> Complete unit with built-in strobe Operating voltage 10-14.5vdc with reverse polarity protection. current(hold-off) siren-230mA(typical) Siren output-111dBA@1M,standby 108dBA@1M. Strobe flash rate-120/min,standby 30/min.	NO	1		
	<b>Total Carried to collection Page 1 Ukunda Stores Alarms</b>				

**UKUNDA STORES ALARMS BILL OF QUANTITIES PAGE 2**

ITEM	DESCRIPTION	UNIT	QTY	RATE	KSHS
<b>E</b>	Cabling, cabinets and associated accessories	Lot	1		
<b>G</b>	<b>PANIC BUTTONS</b> Strong mechanical composition.	No.	4		
<b>H</b>	<b>ADVANCED GSM/GPRS MODULE</b> Central station events reporting Via Voice/sms/E-mail To transmit zone activations and other alarm events such as specific alarm activation zones, arm/disarm users plus time of arm/disarm, loss of power on the system, system failure/restore and others. Support both prepaid and post-paid SIM Cards. Support remote upload and download.	No.	1		
<b>J</b>	Installation, Training testing and commissioning	Lot	1		
<b>K</b>	1 year maintenance of the Alarm systems	Quarter	4		
<b>L</b>	Guard Monitoring unit Complete with 10 Clocking Points as per the Specifications	Lot	1		
<b>M</b>	HD Magnetic Contacts	No	2		
	<b>Total Carried to collection Page 2 Ukunda Stores Alarms</b>				

**SUMMARY PAGE UKUNDA STORES ALARMS**

No	Item Description	Amount
		KES
<b>A</b>	<b>Total Carried to collection Page 1 Ukunda Stores Alarms</b>	
<b>B</b>	<b>Total Carried to collection Page 2 Ukunda Stores Alarms</b>	
<b>C</b>	<b>Sub-total-2 Ukunda Stores Alarms</b>	
	<b>TOTAL CARRIED TO COLLECTION UKUNDA STORES ALARMS</b>	



**CATEGORY 6: INSTALLATION OF INTRUDER ALARMS/INTRUSION DETECTION SYSTEMS COMMERCIAL OFFICES**

**NAIROBI SOUTH STORES ALARMS BILL OF QUANTITIES PAGE 1**

ITEM	DESCRIPTION	UNIT	QTY	RATE	KSHS
<b>A</b>	<b>CONTROL PANEL WITH SOFTWARE AND PROGRAMMING</b> 16-zones input expandable to more than 40 zones and with Keypad zones LCD Keypad with infrared receiver and battery as <b>Pro - Sys 128</b> or equal and approved. At least more than 4-zones partitioning Accommodate more than 50 user codes 4 or more PGM (programmable output) Allow for IP Module and GSM connection to interface with computers, printer and other computer networks. GSM connectivity to allow events communication via mobile	NO	3		
<b>B</b>	<b>MOTION DETECTORS (PIR)</b> Indoor Dual element sensor. 12m (40ft), 110 view angle. False alarms reduction facilities. Interlock sensor geometry. Automatic temperature compensation. Sensitivity adjustment. Protection from UV rays.	NO	16		
<b>C</b>	<b>POWER SUPPLY UNIT(P.S.U.)</b> Complete with back-up battery (12v, 7AH). Output current 3A. Output voltage 13.6-14vdc on mains power. Load regulation 5% Battery recharges 13 hours.	NO	4		
<b>D</b>	<b>4-Channel LONG RANGE ALARM REMOTE RECEIVER KIT</b> Operating voltage 12vdc. Operating range more than 200m radius. Dip-switch coding facility Momentary/latching relay contacts Complete with two remote buttons.	NO	2		
<b>E</b>	Extra Remotes Buttons	NO	2		
<b>F</b>	<b>SIREN</b> Complete unit with built-in strobe Operating voltage 10-14.5vdc with reverse polarity protection. current(hold-off) siren-230mA(typical) Siren output-11dBA@1M,standby 108dBA@1M. Strobe flash rate-120/min,standby 30/min.	NO	3		
	<b>Total Carried to collection Page 1 Nairobi South Stores Alarms</b>				

**NAIROBI SOUTH STORES ALARMS BILL OF QUANTITIES PAGE 2**

ITEM	DESCRIPTION	UNIT	QTY	RATE	KSHS
A.	A GSM Monitoring Tablet	NO	1		
B.	<b>ZONE EXPANDER MODULE</b> Compatible with supplied alarm control panel and related modules and accessories.	NO	2		
C.	Cabling, cabinets and associated accessories	Lot	1		
D.	<b>CEILING MOUNT MOTION DETECTOR</b> detection range 12m(40ft) adjustable height(between 1.5m-5.1m) Dual MW + PIR technologies Microprocessor controlled Patented true temperature compensation Superior fluorescent interference rejection Superior RFI immunity LED walk test display Alternate polarity pulse count		3		
E.	<b>PANIC BUTTONS</b> Strong mechanical composition.	No.	6		
F.	<b>ADVANCED GSM/GPRS MODULE</b> Central station events reporting Via Voice/sms/E-mail To transmit zone activations and other alarm events such as specific alarm activation zones, arm/disarm users plus time of arm/disarm, loss of power on the system, system failure/restore and others. Support both prepaid and post-paid SIM Cards. Support remote upload and download.	No.	3		
	Installation, Training testing and commissioning	Lot	1		
G.	1 year maintenance of the Alarm systems	Quarter	4		
H.	Guard Monitoring unit Complete with 10 Clocking Points as per the Specifications	Lot	1		
I.	HD Magnetic Contacts	No	7		
	<b>Total Carried to collection Page 2 Nairobi South Stores Alarms</b>				

# SUMMARY PAGE NAIROBI SOUTH STORES ALARMS

No	Item Description	Amount
		KES
A	Total Carried to collection Page 1 Nairobi South Stores Alarms	
B	Total Carried to collection Page 2 Nairobi South Stores Alarms	
C	Sub-total-2 Nairobi South Stores Alarms	
	<b>TOTAL CARRIED TO COLLECTION NAIROBI SOUTH STORES ALARMS</b>	

**KISII STORES ALARMS BILL OF QUANTITIES PAGE 1**

ITEM	DESCRIPTION	UNIT	QTY	RATE	KSHS
<b>A</b>	<b>CONTROL PANEL WITH SOFTWARE AND PROGRAMMING</b> 16-zones input expandable to more than 40 zones and with Keypad zones LCD Keypad with infrared receiver and battery as <b>Pro - Sys 128</b> or equal and approved. At least more than 4-zones partitioning Accommodate more than 50 user codes 4 or more PGM (programmable output) Allow for IP Module and GSM connection to interface with computers, printer and other computer networks. GSM connectivity to allow events communication via mobile	NO	1		
<b>B</b>	<b>MOTION DETECTORS (PIR)</b> Indoor Dual element sensor. 12m (40ft), 110 view angle. False alarms reduction facilities. Interlock sensor geometry. Automatic temperature compensation. Sensitivity adjustment. Protection from UV rays.	NO	11		
<b>C</b>	<b>POWER SUPPLY UNIT(P.S.U.)</b> Complete with back-up battery (12v, 7AH). Output current 3A. Output voltage 13.6-14vdc on mains power. Load regulation 5% Battery recharges 13 hours.	NO	1		
<b>D</b>	<b>4-Channel LONG RANGE ALARM REMOTE RECEIVER KIT</b> Operating voltage 12vdc. Operating range more than 200m radius. Dip-switch coding facility Momentary/latching relay contacts Complete with two remote buttons.	NO	1		
<b>E</b>	Extra Remotes Buttons	NO	0		
<b>F</b>	<b>SIREN</b> Complete unit with built-in strobe Operating voltage 10-14.5vdc with reverse polarity protection. current(hold-off) siren-230mA(typical) Siren output-11dBA@1M,standby 108dBA@1M. Strobe flash rate-120/min,standby 30/min.	NO	1		
	<b>Total Carried to collection Page 1 Kisii Stores Alarms</b>				

**KISII STORES ALARMS BILL OF QUANTITIES PAGE 2**

ITEM	DESCRIPTION	UNIT	QTY	RATE	KSHS
A.	A GSM Monitoring Tablet	NO	1		
B.	Cabling, cabinets and associated accessories	Lot	1		
C.	<b>CEILING MOUNT MOTION DETECTOR</b> detection range 12m(40ft) adjustable height(between 1.5m-5.1m) Dual MW + PIR technologies Microprocessor controlled Patented true temperature compensation Superior fluorescent interference rejection Superior RFI immunity LED walk test display Alternate polarity pulse count		2		
D.	<b>PANIC BUTTONS</b> Strong mechanical composition.	No.	4		
E.	<b>ADVANCED GSM/GPRS MODULE</b> Central station events reporting Via Voice/sms/E-mail To transmit zone activations and other alarm events such as specific alarm activation zones, arm/disarm users plus time of arm/disarm, loss of power on the system, system failure/restore and others. Support both prepaid and post-paid SIM Cards. Support remote upload and download.	No.	1		
F.	1 year maintenance of the Alarm systems	Quarter	4		
G.	Guard Monitoring unit Complete with 10 Clocking Points as per the Specifications	Lot	1		
H.	HD Magnetic Contacts	No	1		
	<b>Total Carried to collection Page 2 Kisii Stores Alarms</b>				

**SUMMARY PAGE KISII STORES ALARMS**

# SUMMARY PAGE KISII STORES ALARMS

No	Item Description	Amount
		KES
A	Total Carried to collection Page 1 Kisii Stores Alarms	
B	Total Carried to collection Page 2 Kisii Stores Alarms	
C	Sub-total Kisii Stores Alarms	
	TOTAL CARRIED TO COLLECTION KISII DEPOT STORES ALARMS	

**CATEGORY 6: INSTALLATION OF INTRUDER ALARMS/INTRUSION DETECTION SYSTEMS COMMERCIAL OFFICES**

**ELDOROT DEPOT IP- CCTV & ACCESS CONTROL**

No	Item Description	Unit	QTY	Country of origin	Rate in KES(Vat Exc)	Amount	Part Numbers
						KES(Vat Exc)	
<b>A.</b>	5 MPX, WDR Fixed Dome Camera	No.	52				
<b>B.</b>	64-Channel NVR and storage Server upto 40TB	No.	1				
<b>C.</b>	Genetec Video License (per Camera).	No.	52				
<b>D.</b>	IP Access Control System <b>TYPE B</b> at Entry (Fingerprint Reader) and Exit (Proximity Reader) complete with IP readers with inbuilt controller module, Door Maglock, Door Closure and all necessary accessories to complete their installation and which must be compatible and shall be linked to existing GENETIC network (per door).	No	4				
<b>E.</b>	40 Inch 1080P LED Monitor C/W mount accessories	No.	1				
<b>F.</b>	32 Inch 1080P LED Monitor C/W mount accessories	No.	1				
<b>G.</b>	Gig Ethernet To Gig rack-mount Fiber optic Media Converter 30km Range industrial type	No.	2				
	<b>Total Carried to Collection Eldoret Depot Cctv page 1</b>						

Bill of Quantities Eldoret Depot Cctv Page 2							
No	Item Description	Unit	QTY	Country of origin	Rate in KES(Vat Exc)	Amount	Part Numbers
H.	Allow for cabling, ducting and necessary accessories		1				
I.	Network Devices accessories&cabinets-5 Edge sitches,1 core switch	LOT	1				
J.	6 Kva true online UPS	NO	1				
K.	3 Kva true online UPS	NO	2				
L.	1.5 Kva true online UPS	NO	2				
M.	Allow for integration of the system to existing GENETIC server	LOT	1				
N.	Client Work station	No	1				
O.	Installation, Testing and Commissioning to client satisfaction	LOT	1				
	Total Carried to Collection Eldoret Depot Cctv page 2						

SUMMARY PAGE ELDORET DEPOT IP- CCTV &ACCESS CONTROL CCTV BILL OF QUANTITIES			
	Total Carried to collection Page 1 Eldoret Depot Cctv		
	Total Carried to collection Page 2 Eldoret Depot Cctv		
	SUB-TOTAL- ELDORET DEPOT -IP- CCTV &ACCESS		



**CATEGORY 6: INSTALLATION OF INTRUDER ALARMS/INTRUSION DETECTION SYSTEMS COMMERCIAL OFFICES**

**TECHNICAL TRAINING**

Bill of Quantities Category 6-Technical Training Page 1							
No	Item Description	Unit	QTY	Country of origin	Rate in KES(Vat Exc)	Amount	Part Numbers
A	Manufacturers Training-3no technical persons (Factor only the cost of training i.e venue ,trainers, transport to and from the training venue and certification)	LOT	1				
	Total Carried to collection Bill of Quantities Category 6- Technical Training Page 1						

	<b>SUMMARY PAGE CATEGORY 6 BILL OF QUANTITIES: INSTALLATION OF INTRUDER ALARMS/INTRUSION DETECTION SYSTEMS COMMERCIAL OFFICES</b>		
	Sub-Total Eldoret depot Intruder Alarms		
	Sub-Total Naivasha Intruder Alarms		
	Sub-Total Ukunda Banking hall-Stores Intruder Alarms		
	Sub-Total Nairobi South Depot Alarms Intruder Alarms		
	Sub-Total Kisii Depot Alarms Intruder Alarms		
	Sub-Total Eldoret depot CCTV		
	Sub-total Total Carried to collection Bill of Quantities Category 6-Technical Training Page 1		
	sub-total- Installation of intruder alarms/intrusion detection systems commercial offices		
	Add 16% Vat		
	SUB-TOTAL		
	GRAND TOTAL- CATEGORY 6: INSTALLATION OF INTRUDER ALARMS/INTRUSION DETECTION SYSTEMS COMMERCIAL OFFICES		

### CATEGORY 6-RECOMMENDED SCHEDULE OF SPARE PARTS

[illegible]

Name of Tenderer\_\_\_\_\_Signature & Official Stamp

1. **The Summary to the Bills of Quantities** will take this form or some other form but including these items.

Item	Description	Total Price Local Currency (Ksh.)
1	Sub-Total Category 1-Installation of CCTV major Distribution/ Transmission substations	
2	Sub-Total Schedule Category 2- Installation of CCTV for key offices	
3	Sub-Total Schedule Category 3- Installation of Access Control in Substations & key offices	
4	Sub-Total Schedule Category 4- Security systems for facilities and infrastructure	
5	Sub-Total Schedule Category 5- Installation of Electric Fences for Key Substations	
6	Sub-Total Schedule Category 6- Installation of Intruder alarms	
	<b>TOTAL</b>	
	<b>16%VAT</b>	
<b>GRAND TOTAL Carried forward to Form of Tender in Kshs. VAT inclusive</b>		