



TENDER NO. KGN-CW-01-2018

KENYA ELECTRICITY GENERATING COMPANY

TENDER FOR THE SUPPLY OF SMART METERS, DESIGN AND IMPLEMENTATION OF METERING AUTOMATION SOLUTION THROUGH ADVANCED METERING INFRASTRUCTURE TECHNOLOGY.

Clarification No. 2.

In accordance to the tender for the supply of smart meters, design and implementation of metering automation solution through advanced metering infrastructure technology.

KenGen hereby wishes to make the following clarification on the tender above through Clarification 2

Clarification Request No	Paragraph &Page	Text	Request for clarification	KENGEN'S RESPONSE
1	Section V – Technical Specifications. – Page 36	For the purposes of communication, based on the bidder's provided solution and architecture, any communicating device necessary to facilitate communication through the KenGen LAN and WAN shall be stated clearly and included in the architecture as well as price list. Clause 20 shall however be a mandatory option to facilitate our system	Can all the existing meters in the company be accessed by IP protocol through the LAN / WAN network?	In the current system, none of the meters can be accessed through the LAN/WAN network

		communication redundancy through GSM technology.		
2	Section V – Technical Specifications. Meter Software – Page 37	The Software shall be able to access and configure the meter registers. Cumulated energy readings received from meters on the software dashboard must originate from its specific configurable register and not from meter pulses.	Please, clarify the scope of this clause.	The software shall be able to access and give readings originating from the configured registers of the parameters that we shall state during execution. The parameters shall include, cumulated energy for export, imports, demand, active power, reactive power registers..etc
3	Section V – Technical Specifications. Meter Software – Page 38	Shall have the flexibility of being tailored to match different operational scenarios.	Please, provide more details on the operational scenarios being considered.	The software shall be able to configure the meter based seasons and give periodic meter readings of all configured registers as required. It shall also allow for configuration of details related to metering instrument transformers in the different power stations and synchronise time of all the meters to the KenGen domain controller
4	Section V – Technical Specifications. Meter Data Management – Page 39	The infrastructure solution must be capable of integration to the current KenGen SAP ERP infrastructure. KenGen current SAP ERP infrastructure is on SAP ECC6.0 EHP7. KenGen runs SAP core modules including SAP Billing, SAP Plant Maintenance, SAP Project Systems, and SAP Fuel Management Systems. Automatic Meter Infrastructure System Operation benefits will	Please, provide more information about the integration requirements with SAP.	The solution shall provide a gateway for access to our SAP ERP infrastructure for future integration.

		<p>primarily be associated with reduction in meter reads and associated data management and administrative support, increased meter reading accuracy, improved utility asset management and easier outage management.</p>		
5	<p>Section V – Technical Specifications. Server Specifications – Page 40</p>	<p>KenGen operates a centralized data centre located in Nairobi and with an offsite, disaster recovery site. The data center has power redundancy, backup and cooling system. The AMI – MDUS server solution will be centrally located in this data center and must be accompanied with a disaster recovery solution. KenGen infrastructure consists of a WAN and LAN over Ethernet. There is an existing windows domain infrastructure administered with an active directory</p>	<p>Please confirm that there are not requirements regarding the operating of the solution.</p>	<p>This information was provided to let the bidder know the infrastructure currently existing in KenGen</p>
6	<p>Section V – Technical Specifications. Server Specifications – Page 41</p>	<p>KenGen operates a centralized data centre located in Nairobi and with an offsite, disaster recovery site. The data centre has power redundancy, backup and cooling system. The AMI – MDUS server solution will be centrally located in this data centre and must be accompanied with a disaster recovery</p>	<p>What backup system does KenGen have? What version?</p>	<p>Veritas Netbackup 8.0</p>

		<p>solution. KenGen infrastructure consists of a WAN and LAN over Ethernet. There is an existing windows domain infrastructure administered with an active directory</p>		
7	<p>Section V – Technical Specifications. Server Specifications – Page 40</p>	<p>KenGen operates a centralized data centre located in Nairobi and with an offsite, disaster recovery site. The data centre has power redundancy, backup and cooling system. The AMI – MDUS server solution will be centrally located in this data center and must be accompanied with a disaster recovery solution. KenGen infrastructure consists of a WAN and LAN over Ethernet. There is an existing windows domain infrastructure administered with an active directory</p>	<p>What are the back-office systems of KenGen? Please, provide more information of the SAP modules (Billing, Plant Maintenance and Project Systems)</p>	<p>The SAP modules are not of relevance to the project since integration shall not be part of the scope. They are only stated to let the bidder know of the existing infrastructure However, a gateway to SAP integration shall be provided.</p>
8	<p>Section V – Technical Specifications. Server Specifications – Page 40</p>	<p>KenGen operates a centralized data center located in Nairobi and with an offsite, disaster recovery site. The data center has power redundancy, backup and cooling system. The AMI – MDUS server solution will be centrally located in this datacenter and must be accompanied with a disaster recovery solution. KenGen infrastructure consists of a WAN</p>	<p>Is the Disaster Recovery Data Centre accessible from the LAN / WAN?</p>	<p>YES</p>

		and LAN over Ethernet. There is an existing windows domain infrastructure administered with an active directory		
9	Section V – Technical Specifications. Server Specifications – Page 40	KenGen operates a centralized data center located in Nairobi and with an offsite, disaster recovery site. The data center has power redundancy, backup and cooling system. The AMI – MDUS server solution will be centrally located in this datacenter and must be accompanied with a disaster recovery solution. KenGen infrastructure consists of a WAN and LAN over Ethernet. There is an existing windows domain infrastructure administered with an active directory	How far is the Disaster Recovery Data Centre from the Main Data Centre?	The disaster recovery is approximately 170kms
10	Section V – Technical Specifications. Server Specifications – Page 40	KenGen operates a centralized data center located in Nairobi and with an offsite, disaster recovery site. The data center has power redundancy, backup and cooling system. The AMI – MDUS server solution will be centrally located in this datacenter and must be accompanied with a disaster recovery solution. KenGen infrastructure consists of a WAN and LAN over Ethernet. There is an existing windows domain	What connection technology exists between the Main Data Centre and the Disaster Recovery Data Centre? MPLS?	The connection technology existing between the main data center and the disaster recovery center is Fibre at a speed of 100 Mbps

		infrastructure administered with an active directory		
11	Section V – Technical Specifications. Technical Obsolescence – Page 43	<p>The systems including communication technologies, which are at a risk of technical obsolescence over the next few years and over the Operating life of the system shall be identified and reported. This may also include end-of-sale and end-of-support policies governing the proposed technologies. The compatibility between the various elements of the system need to be considered and mitigation options, not be limited to periodic update from OEM/System supplier, shall be indicated in detail. The supplier shall provide support for a minimum of ten years. In case of any obsolescence, the software shall be able to be migrated to the latest release without any challenges.</p>	Please, specify what kind of support is requested.	The technology shall be relevant and obsolesce shall not apply in the next ten years. Support shall apply in case of software upgrades and the normal technical system support within the next two years after commissioning. If any of the mentioned support is required within this period then the Cost shall be borne by the supplier of the solution.
12	Section V – Technical Specifications. Factory Acceptance and Testing – Page 44	<p>A bench marking exercise shall also be carried out prior to the implementation of this project. The benchmark is aimed at ascertaining the ability of the bidder to deliver AMI solution and audit the processes of delivery to ensure they meet KenGen standards. Benchmarking shall be carried</p>	Please, provide more information about the scope and details of the benchmark.	The benchmark is aimed at ascertaining the ability of the bidder to deliver AMI solution and audit the processes of delivery to ensure they meet KenGen standards. It shall be carried out based on the information provided by the bidders on previous experience and references.

		out by the Tender evaluation committee to ascertain the bidder's ability to deliver on this project.		
13	NA	NA	How many end-users will interact with the solution?	The system software shall be web based as stipulated in clause 20 and clause 21 .It shall therefore be accessible to as many users as possible. However if user licenses are required other than the one off meter software and server licenses, price of the user licenses shall be indicated as a unit price clearly stating the renewal period per user license and cost implication.
14	NA	NA	What different operational scenarios are used in KenGen? What roles are implicated in them?	KenGen operates different power plants and therefore the software solution shall be able to configure the energy meters based seasons and give periodic meter readings of all configured registers as required. It shall also allow for configuration of details related to metering instrument transformers in the different power stations and synchronise time of all the meters to the KenGen domain controller
15	NA	NA	We would like to know about the communications between the different regions (power plants) and Nairobi: type,	<ol style="list-style-type: none"> 1. Seven-Forks Region to Stima Plaza (KPLC backbone: 100Mbps and Safaricom: 40 Mbps) 2. Kipevu Power Station to Stima Plaza (KPLC

			<p>status, etc. ---Fibre speeds and redundancies</p> <p><i>WAN/LAN is available.</i></p>	<p>backbone: 100Mbps and Telkom Kenya: 10Mbps)</p> <ol style="list-style-type: none"> 3. Olkaria Region to Stima Plaza (Safaricom: 20 Mbps and Telkom Kenya: 40Mbps) 4. Western Region to Stima Plaza (KPLC backbone: 100Mbps and Telkom Kenya: 10Mbps) 5. Upper Tana Region to Stima Plaza (Liquid Telkom backbone: 10Mbps) 6. Ngong Wind Power Station to Stima Plaza (Safaricom: 10 Mbps) <p>N.B. All sites KenGen</p>
16	Clarification No. 1. Clause 4 – Page 2	The servers are required in the different areas to cater for times for when links are down at any given time. Else provide a solution for how data availability shall not be affected in case there is no communication.	Please confirm that servers must be placed on each one of the 6 areas described in the tender.	The solution set up will be based on the bidder's optimum design. We shall require to have data from all the stations to the central server. The server specifications provided for in clause 23 shall only apply to the main server at the centralized access point and the backup server at KenGen's Data recovery center.
17	N/A	N/A	Is there a requirement to know about their network security in relation to the setup?	The current runs on kaspersky version 10.3.0.6294

18	Clarification No. 1. Clause 4 – Page 2	The servers are required in the different areas to cater for times for when links are down at any given time. Else provide a solution for how data availability shall not be affected in case there is no communication.	Please confirm that servers must be placed on each one of the 6 areas described in the tender.	The solution set up will be based on the bidder's optimum design. We shall require to have data from all the stations to the central server. The server specifications provided for in clause 23 shall only apply to the main server at the centralized access point and the backup server at KenGen's Data recovery center.
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CLARIFICATION			KENGEN’S REPSONSE	
<p>The infrastructure solution must be capable of integration to the current KenGen SAP ERP infrastructure. KenGen current SAP ERP infrastructure is on SAP ECC6.0 EHP7. KenGen runs SAP core modules including SAP Billing, SAP Plant Maintenance, SAP Project Systems, and SAP Fuel Management Systems. “</p> <p>We have the following questions:</p> <p>For the SAP integration, although we are able to do it, we don’t have “SAP Certification”. This SAP certification it’s very expensive. Will KenGen require it?</p> <p>The integration has to be done to all the SAP modules listed (SAP Billing, SAP Plant Maintenance, SAP Project Systems, and SAP Fuel Management Systems)?</p>			<p>The solution shall provide a gateway for access to our SAP ERP infrastructure for future integration.</p>	

<p>Evaluation Criteria: On page 48 it is stated that a score of 5 being Excellent, 4 being Good, and a score of 3 as Acceptable and so forth.... We would like clarification on:</p>	
<p>The Cut off point for a bidder to advance to financial evaluation</p>	<p>There is no scoring and therefore no cut-off points in evaluation of this tender. Instead, Its well stated in the appendix to ITT on page 21 that :</p>
<p>If the score will be a factor on price comparability when it comes to financial evaluation, i.e. if a score of 5 with a higher price, be preferred over a score of 4. Please clarify</p>	<p>NOTE: bidders must pass on ALL the above 9 technical evaluation parameters to be considered for price evaluation</p>
<p>Licenses: Please specify the number of users/licenseses for the software to be provided</p>	<p>The software is expected to be a web based solution .Therefore accessible from the web. However if user licenses are required other than the one off meter software and server licenses, price of the user licenses shall be indicated as a unit price clearly stating the renewal period per user license and cost implication.</p>
<p>Accessibility Hardware: It is not clearly shown in the document the number of switches and display monitors to be provided. This needs to be clarified because the site visit only covered a fraction of the stations thus hard to predict</p>	<p>NB: KenGen has a Working WAN/LAN and we expect the solution to ride on that existing infrastructure to relay the data. For display points, please refer to the regional set up description stated in clause 24.</p>
<p>Regarding the connection to main control center located at Stima Plaza, kindly confirm the following:</p>	
<p>Supplying of any FO Switches are out of the bidder's Scope of Supply</p>	<p>If a case arises that within the bidder's solution there will be need to extend Fiber cable or there will be need for additional switch or accessories, it will be at bidders cost.</p>
<p>Supplying of any FO cables are out of the bidder's Scope FO Cable Termination and Splicing are out of the bidder's Scope of services of Supply</p>	<p>Where Fiber cables are required, the bidder shall supply and splice/terminate Fiber cables to the nearest switch at bidder's cost.</p>
<p>GSM/3G/EDGE wireless backup communication is required between each power plant and Stima Plaza Control Center.</p>	<p>YES</p>
<p>Regarding the installation of smart meters at each site, please confirm the following:</p>	
<p>Supplying of CTs & VTs are completely out of bidder's Scope</p>	<p>KenGen has an existing metering system with CTs and VTs. Supply and installation of VTs and CTs is NOT part of the scope of this project</p>
<p>Installation of CTs & VTs are completely out of bidder's Scope</p>	
<p>There is an existing LAN in each site (Power Plant) and we can utilize it to connect the meters to the existing SCADA/DCS Switches</p>	<p>All KenGen Power plants are connected to the Corporate LAN/WAN, bidder can utilize KenGen Corporate existing LAN to connect to the meters.</p>

<p>Modifications of Existing SCADA/DCS to Monitor the new installed meters are out of bidder's scope.</p>	<p>We shall require to have access to the data which can be integrated to the existing system. Therefore the solution provided shall give a gateway access to the existing KenGen infrastructure.</p>
<p>As per the System Architecture in the tender document, it is not required to install MDM server at each power plant. The MDM Server is required only Stima Plaza</p>	<p>The System Architecture on the tender document is just but a guide to bidders. Bidders shall come up their own optimum System Architecture for their solution that shall be adequate to satisfy our requirements.</p>

ACKNOWLEDGEMENT OF CLARIFICATION NO.2

We, the undersigned hereby certify that the clarification is an integral part of the document and has been incorporated in the tender proposal.

SignedDate

Tenderer