



KENYA ELECTRICITY GENERATING COMPANY PLC

KGN-HYD-052-2021

Rfx 5000008629

**TENDER FOR DESIGN, MANUFACTURE,
DELIVERY, SUPERVISION OF ASSEMBLY,
TESTING AND COMMISSIONING OF 40MVA,
11/132KV, ONAN/ONAF GENERATOR STEP UP
TRANSFORMER FOR KAMBURU POWER
STATION**

(Open International)

Kenya Electricity Generating Company PLC
Stima Plaza Phase III, Kolobot Road, Parklands
P.O. BOX 47936-00100
NAIROBI.

Website: www.kengen.co.ke

November 2021

INVITATION TO TENDER

PROCURING ENTITY: KENYA ELECTRICITY GENERATING COMPANY PLC

CONTRACT NAME AND DESCRIPTION: Tender for Design, Manufacture, Delivery, Supervision of Assembly, Testing and Commissioning of 40MVA, 11/132KV, ONAN/ONAF Generator Step Up Transformer for Kamburu Power Station

KenGen Plc invites sealed tenders from eligible candidates for the Tender for Design, Manufacture, Delivery, Supervision of Assembly, Testing and Commissioning of 40MVA, 11/132KV, ONAN/ONAF Generator Step Up Transformer for Kamburu Power Station whose specifications are detailed in the Tender Document

1. Tendering will be conducted under open competitive method (Open International) using a standardized tender document. Tendering is open to all qualified and interested Tenderers.

The tender is specific to **Open International**

Qualified and interested tenderers may obtain further information and inspect the Tender Documents during office hours between 8am and 5pm starting at the date of advert at the office of:

Supply Chain Director

Tel: (254) (020) 3666000

Email: tenders@kengen.co.ke;

cc jtheuri@kengen.co.ke

2. A complete set of tender documents may be purchased or obtained by interested tenders upon payment of a non-refundable fees of (*Amount in Kenya shillings 1000/=*) deposited to KenGen accounts or Banker's Cheque and payable to the address given below. Tender documents may be obtained electronically from the Website ((WWW.KENGEN.CO.KE)). Tender documents obtained electronically will be free of charge.
3. Tender documents may be viewed and downloaded for free from the website WWW.KENGEN.CO.KE. Tenderers who download the tender document must forward their particulars immediately to: tenders@kengen.co.ke; Telephone 0711 036 000 and P.O. Box 47936-00100 to facilitate any further clarification or addendum.
4. All Tenders must be accompanied by a "tender Security in form of bank guarantee from a registered bank by Central Bank of Kenya of **KSh 1,000,000.00** (equivalent to USD 9,000).

Note: The ORIGINAL BID SECURITY should be dropped in the tender box located on Ground Floor at KenGen, RBS building on or before **20th January, 2022 at 2.00 p.m.**

The tender security shall be dropped in the tender box located at the Ground floor, Stima Plaza. All tender securities submitted shall be subject to authentication by KenGen.

5. **Mandatory Site Visits** shall take place on **16th December, 2021 at Kamburu Power Station as from 10.00 a.m..**

Contact person: pogeto@kengen.co.ke jtheuri@kengen.co.ke

6. The Tenderer shall chronologically serialize all pages of the tender documents submitted.

Completed tenders must be delivered to the address below on or before **20th January, 2022 at 2.00 p.m.** *Electronic submission shall be permitted through our e-procurement platform found at www.kengen.co.ke (<https://eprocurement.kengen.co.ke:50001/irj/portal>). Internet Explorer and Firefox Mozilla are the preferred web browsers.*

[Hard copies of the tender document shall not be permitted]

- For suppliers registering for the first time using the link [https://supplierregistration.kengen.co.ke:4302/slc_selfreg\(bD1lbiZjPTMwMCZkPW1pbG==\)/bspwdapplication.do#VIEW_ANCHOR-ROS_TOP](https://supplierregistration.kengen.co.ke:4302/slc_selfreg(bD1lbiZjPTMwMCZkPW1pbG==)/bspwdapplication.do#VIEW_ANCHOR-ROS_TOP) ensure the "Public Tender" checkbox is ticked so that the login details are sent to suppliers automatically.



- It is a mandatory requirement that all documents are uploaded to the **c-folder** of the SRM System through the link <https://eprocurement.kengen.co.ke:50001/irj/portal> 'Technical RFX response'. Responses documents attached to the 'notes and attachments' tab will not be considered for evaluation.



- Prices **MUST** be entered under item tab of the RFX and **MUST** be similar to the prices in the price/BoQ Schedule.



- Bidders should confirm on the supplier portal that the status of their RFX response shows "Submitted" and not "Saved" to ensure their RFX response is submitted.

Event Number	Event Description	Event Type	Event Status	Start Date	End Date	Response Number	Response Status
500000	Test Bid Invite to Bidders	Open Tendering	Published		22.08.2023	000000	Saved
500000	Test Bid Invite to Bidders	Open Tendering	Published		15.02.2023	000000	Submitted



- Bidders who have submitted their bids should not click on WITHDRAW but click on EDIT to amend their bid response with appropriate changes if they desire to do so.
- Manuals to guide on the bidding process are accessible via the KenGen Tenders Portal.



Bidders to note that **system challenges/support** related to bid submission issues shall be **addressed 48 hours before** tender opening date and time.

- Tenders will be opened immediately after the deadline date and time specified above or any dead line date and time specified later.
- The addresses referred to above are:

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

Physical address for hand Courier Delivery to an office or Tender Box (City, Street Name, Building, Floor Number and Room)

Kenya Electricity Generating Company PLC
Stima Plaza Phase III, Kolobot Road, Parklands
P.O. BOX 47936-00100
Tenders@kengen.co.ke;

B. Address for Opening of Tenders.

Supply Chain Director
Kenya Electricity Generating Company PLC
KenGen RBS, Kolobot Road, Parklands
P.O. BOX 47936-00100
6th Floor

*KenGen adheres to high standards of integrity in its business operations.
Report any unethical behavior immediately to any of the provided anonymous hotline service.*

1) Call Toll Free: 0800722626; 2) Free-Fax: 00800 007788;
3) Email: kengen@tip-offs.com 4) Website: www.tip-offs.com

SUPPLY CHAIN DIRECTOR

PART 1 ~ TENDERING PROCEDURES

SECTION I: INSTRUCTIONS TO TENDERERS

A General Provisions

1. Scope of Tender

- 1.1 The Procuring Entity as defined in the TDS invites tenders for supply of goods and, if applicable, any Related Services incidental thereto, as specified in Section V, Supply Requirements. The name, identification, and number of lots (contracts) of this Tender Document are specified in the TDS.
- 1.2 Throughout this tendering document:
 - a) the term “in writing” means communicated in written form (e.g. by mail, e-mail, fax, including if specified in the TDS, distributed or received through the electronic-procurement system used by the Procuring Entity) with proof of receipt;
 - b) if the context so requires, “singular” means “plural” and vice versa;
 - c) “Day” means calendar day, unless otherwise specified as “Business Day”. A Business Day is any day that is an official working day of the Procuring Entity. It excludes official public holidays.

2. Fraud and Corruption

- 2.1 The Procuring Entity requires compliance with the provisions of the Public Procurement and Asset Disposal Act, 2015, Section 62 “Declaration not to engage in corruption”. The tender submitted by a person shall include a declaration that the person shall not engage in any corrupt or fraudulent practice and a declaration that the person or his or her sub-contractors are not debarred from participating in public procurement proceedings.
- 2.2 The Procuring Entity requires compliance with the provisions of the Competition Act 2010, regarding collusive practices in contracting. Any tenderer found to have engaged in collusive conduct shall be disqualified and criminal and/or civil sanctions may be imposed. To this effect, Tenders shall be required to complete and sign the “Certificate of Independent Tender Determination” annexed to the Form of Tender.
- 2.3 Unfair Competitive Advantage - Fairness and transparency in the tender process require that the firms or their Affiliates competing for a specific assignment do not derive a competitive advantage from having provided consulting services related to this tender. To that end, the Procuring Entity shall indicate in the **Data Sheet** and make available to all the firms together with this tender document all information that would in that respect give such firm any unfair competitive advantage over competing firms.

3. Eligible Tenderers

- 3.1 A Tenderer may be a firm that is a private entity, an individual, a state-owned enterprise or institution subject to ITT3.7, or any combination of such entities in the form of a joint venture (JV) under an existing agreement or with the intent to enter into such an agreement supported by a letter of intent. Public employees and their close relatives (*spouses, children, brothers, sisters and uncles and aunts*) are not eligible to participate in the tender.

In the case of a joint venture, all members shall be jointly and severally liable for the execution of the entire Contract in accordance with the Contract terms. The JV shall nominate a Representative who shall have the authority to conduct all business for and on behalf of any and all the members of the JV during the Tendering process and, in the event the JV is awarded the Contract, during contract execution. The maximum number of JV members shall be specified in the **TDS**.

- 3.2 Public Officers of the Procuring Entity, their Spouses, Child, Parent, Brothers or Sister. Child, Parent, Brother or Sister of a Spouse their business associates or agents and firms/organizations in which they have a substantial or controlling interest shall not be eligible to tender or be awarded a contract. Public Officers are also not allowed to participate in any procurement proceedings.
- 3.3 A Tenderer shall not have a conflict of interest. Any Tenderer found to have a conflict of interest shall be disqualified. A Tenderer may be considered to have a conflict of interest

for the purpose of this Tendering process, if the Tenderer:

- a) directly or indirectly controls, is controlled by or is under common control with another Tenderer; or
 - b) receives or has received any direct or indirect subsidy from another Tenderer; or
 - c) has the same - representative or ownership as another Tenderer; or
 - d) has a relationship with another Tenderer, directly or through common third parties, that puts it in a position to influence the Tender of another Tenderer, or influence the decisions of the Procuring Entity regarding this Tendering process; or
 - e) or any of its affiliates participated as a consultant in the preparation of the design or technical specifications of the goods that are the subject of the Tender; or
 - f) or any of its affiliates has been hired (or is proposed to be hired) by the Procuring Entity or Procuring Entity for the Contract implementation; or
 - g) would be providing goods, works, or non-consulting services resulting from or directly related to consulting services for the preparation or implementation of the project specified in the TDS ITT 1.1 that it provided or were provided by any affiliate that directly or indirectly controls, is controlled by, or is under common control with that firm; or has a close business or family relationship with a professional staff of the Procuring Entity (or of the project implementing agency, who: (i) are directly or indirectly involved in the preparation of the tendering document or specifications of the Contract, and/or the Tender evaluation process of such Contract; or (ii) would be involved in the implementation or supervision of such Contract unless the conflict stemming from such relationship has been resolved in a manner acceptable to the Procuring Entity throughout the Tendering process and execution of the Contract.
- 34 A tenderer shall not be involved in corrupt, coercive, obstructive, collusive or fraudulent practice. A tenderer that is proven to have been involved in any of these practices shall be automatically disqualified.
- 35 A firm that is a Tenderer (either individually or as a JV member) shall not submit more than one Tender, except for permitted alternative Tenders. This includes participation as a subcontractor. Such participation shall result in the disqualification of all Tenders in which the firm is involved. A firm that is not a Tenderer or a JV member, may participate as a subcontractor in more than one Tender. Members of a joint venture may not also make an individual tender, be a subcontractor in a separate tender or be part of another joint venture for the purposes of the same Tender.
- 36 A Tenderer may have the nationality of any country, subject to the restrictions pursuant to ITT3.9. A Tenderer shall be deemed to have the nationality of a country if the Tenderer is constituted, incorporated or registered in and operates in conformity with the provisions of the laws of that country, as evidenced by its articles of incorporation (or equivalent documents of constitution or association) and its registration documents, as the case may be. This criterion also shall apply to the determination of the nationality of proposed subcontractors or sub consultants for any part of the Contract including related Services.
- 37 A Tenderer that has been debarred by the PPRA from participating in public procurement shall be ineligible to tender or be awarded a contract. The list of debarred firms and individuals is available from the PPRA's website www.ppra.go.ke
- 38 Tenderers that are state-owned enterprises or institutions may be eligible to compete and be awarded a Contract(s) only if they are (i) a legal public entity of the state Government and/or public administration, (ii) financially autonomous and not receiving any significant subsidies or budget support from any public entity or Government, and (iii) operating under commercial law and vested with legal rights and liabilities similar to any commercial enterprise to enable it compete with firms in the private sector on an equal basis. Public employees and their close relatives are not eligible to participate in the tender.
- 39 Tenderers may be ineligible if their countries of origin (a) as a matter of law or official regulations, Kenya prohibits commercial relations with that country, or (b) by an act of compliance with a decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations, Kenya prohibits any import of goods or contracting for supply of goods or services from that country, or any payments to any country, person, or entity in that country. A tenderer shall provide such documentary evidence of eligibility satisfactory to the Procuring Entity, as the Procuring Entity shall reasonably request.
- 3.10 Tenderers shall provide the qualification information statement that the tenderer (including all members of a joint venture and subcontractors) is not associated, or have been associated in the past, directly or indirectly, with a firm or any of its affiliates which have been engaged by the Procuring entity to provide consulting services for the preparation of the design,

specifications, and other documents to be used for the procurement of the goods under this Invitation for tenders.

311 Where the law requires tenderers to be registered with certain authorities in Kenya, such registration requirements shall be defined in the **TDS**

312 The Competition Act of Kenya requires that firms wishing to tender as Joint Venture undertakings which may prevent, distort or lessen competition in provision of services are prohibited unless they are exempt in accordance with the provisions of Section 25 of the Competition Act, 2010. JVs will be required to seek for exemption from the Competition Authority. Exemption shall not be a condition for tender, but it shall be a condition of contract award and signature. A JV tenderer shall be given opportunity to seek such exemption as a condition of award and signature of contract. Application for exemption from the Competition Authority of Kenya may be accessed from the website www.cak.go.ke.

313 A Kenyan tenderer shall provide evidence of having fulfilled his/her tax obligations by producing a current tax clearance certificate or tax exemption certificate issued by the Kenya Revenue Authority.

4 Eligible Goods and Related Services

41 All the Goods and Related Services to be supplied under the Contract shall have their origin in any country that is eligible in accordance with ITT 3.9.

42 For purposes of this ITT, the term “goods” includes commodities, raw material, machinery, equipment, and industrial plants; and “related services” include services such as insurance, installation, training, and initial maintenance.

43 The term “origin” means the country where the goods have been mined, grown, cultivated, produced, manufactured or processed; or, through manufacture, processing, or assembly, another commercially recognized article results that differs substantially in its basic characteristics from its components.

44 A procuring entity shall ensure that the items listed below shall be sourced from Kenya and there shall be no substitutions from foreign sources. The affected items are:

- a) motor vehicles, plant and equipment which are assembled in Kenya;
- b) furniture, textile, foodstuffs, oil and gas, information communication technology, steel, cement, leather, agro-processed products, sanitary products, and other goods made in Kenya; or
- c) goods manufactured, mined, extracted or grown in Kenya.

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

5 Sections of Tendering Document

51 The tendering document consist of Parts 1, 2, and 3, which include all the sections indicated below, and should be read in conjunction with any Addenda issued in accordance with ITT8.

PART : Tendering Procedures

- i) Section I - Instructions to Tenderers (ITT)
- ii) Section II - Tendering Data Sheet (TDS)
- iii) Section III - Evaluation and Qualification Criteria
- iv) Section IV - Tendering Forms

PART 2: Supply Requirements

- v) Section V - Schedule of Requirements

PART 3 Contract

- vi) Section VI - General Conditions of Contract (GCC)
- vii) Section VII - Special Conditions of Contract (SCC)
- viii) Section VIII- Contract Forms

- 52 The notice of Invitation to Tender or the notice to the prequalified Tenderers issued by the Procuring Entity is not part of the tendering document.
- 53 Unless obtained directly from the Procuring Entity, the Procuring Entity is not responsible for the completeness of the document, responses to requests for clarification, the minutes of the pre-tender meeting (if any), or addenda to the tendering document in accordance with ITT7.
- 54 The Tenderer is expected to examine all instructions, forms, terms, and specifications in the tendering document and to furnish with its Tender all information or documentation as is required by the tendering document.

6 Clarification of Tendering Document

- 61 A Tenderer requiring any clarification of the Tender Document shall contact the Procuring Entity in writing at the Procuring Entity's address specified in the **TDS** or raise its enquiries during the pre-Tender meeting if provided for in accordance with ITT 6.4. The Procuring Entity will respond in writing to any request for clarification, provided that such request is received no later than the period specified in the **TDS** prior to the deadline for submission of tenders. The Procuring Entity shall forward copies of its response to all tenderers who have acquired the Tender documents in accordance with ITT 5.3, including a description of the inquiry but without identifying its source. If so specified in the **TDS**, the Procuring Entity shall also promptly publish its response at the web page identified in the **TDS**. Should the clarification result in changes to the essential elements of the Tender Documents, the Procuring Entity shall amend the Tender Documents following the procedure under ITT 7.
- 62 The Procuring Entity shall specify in the **TDS** if a pre-tender conference will be held, when and where. The Tenderer's designated representative is invited to attend a pre-Tender meeting. The purpose of the meeting will be to clarify issues and to answer questions on any matter that may be raised at that stage.
- 63 The Tenderer is requested to submit any questions in writing, to reach the Procuring Entity not later than the period specified in the **TDS** before the meeting.
- 64 Minutes of the pre-Tender meeting, if applicable, including the text of the questions asked by Tenderers and the responses given, together with any responses prepared after the meeting, will be transmitted promptly to all Tenderers who have acquired the Tender Documents in accordance with ITT 6.3. Minutes shall not identify the source of the questions asked.
- 65 The Procuring Entity shall also promptly publish anonymized (*no names*) Minutes of the pre-Tender meeting at the web page identified **in the TDS**. Any modification to the Tender Documents that may become necessary as a result of the pre-Tender meeting shall be made by the Procuring Entity exclusively through the issue of an Addendum pursuant to ITT 7 and not through the minutes of the pre-Tender meeting. Nonattendance at the pre-Tender meeting will not be a cause for disqualification of a Tenderer.

7 Amendment of Tendering Document

- 71 At any time prior to the deadline for submission of Tenders, the Procuring Entity may amend the tendering document by issuing addenda.
- 72 Any addendum issued shall be part of the tendering document and shall be communicated in writing to all who have obtained the tender document from the Procuring Entity in accordance with ITT 6.3. The Procuring Entity shall also promptly publish the addendum on the Procuring Entity's web page in accordance with ITT 7.1.
- 73 To give prospective Tenderers reasonable time in which to take an addendum into account in preparing their Tenders, the Procuring Entity may, at its discretion, extend the deadline for the submission of Tenders, pursuant to ITT 21.2.

C. Preparation of Tenders

8 Cost of Tendering

- 81 The Tenderer shall bear all costs associated with the preparation and submission of its Tender, and the Procuring Entity shall not be responsible or liable for those costs, regardless of the

conduct or outcome of the Tendering process.

9. Language of Tender

- 9.1 The Tender, as well as all correspondence and documents relating to the Tender exchanged by the Tenderer and the Procuring Entity, shall be written in English Language. Supporting documents and printed literature that are part of the Tender may be in another language provided they are accompanied by an accurate translation of the relevant passages into the English Language, in which case, for purposes of interpretation of the Tender, such translation shall govern.

10. Documents Comprising the Tender

- 10.1 The Tender shall comprise the following:
- a) Form of Tender prepared in accordance with ITT11;
 - b) Price Schedules: completed in accordance with ITT 11 and ITT 13;
 - c) Tender Security or Tender-Securing Declaration, in accordance with ITT 18.1;
 - d) Alternative Tender: if permissible, in accordance with ITT12;
 - e) Authorization: written confirmation authorizing the signatory of the Tender to commit the Tenderer, in accordance with ITT19.3;
 - f) Qualifications: documentary evidence in accordance with ITT 16.2 establishing the Tenderer qualifications to perform the Contract if its Tender is accepted;
 - g) Tenderer Eligibility: documentary evidence in accordance with ITT16.1 establishing the Tenderer eligibility to tender;
 - h) Eligibility of Goods and Related Services: documentary evidence in accordance with ITT 15, establishing the eligibility of the Goods and Related Services to be supplied by the Tenderer;
 - i) Conformity: documentary evidence in accordance with ITT15.2 that the Goods and Related Services conform to the tender document; and
 - j) any other document required in the TDS.
- 10.2 In addition to the requirements under ITT 10.1, Tenders submitted by a JV shall include a copy of the Joint Venture Agreement entered into by all members. Alternatively, a letter of intent to execute a Joint Venture Agreement in the event of a successful Tender shall be signed by all members and submitted with the Tender, together with a copy of the proposed Agreement.
- 10.3 The Tenderer shall furnish in the Form of Tender information on commissions gratuities, and fees, if any, paid or to be paid to agents or any other party relating to this Tender.

11. Form of Tender and Price Schedules

- 11.1 The Form of Tender and Price Schedules shall be prepared using the relevant forms furnished in Section IV, Tendering Forms. The forms must be completed without any alterations to the text. All blank spaces shall be filled in with the information requested. The Tenderer shall chronologically serialise pages of all tender documents submitted.

12. Alternative Tenders

- 12.1 Unless otherwise specified in the TDS, alternative Tenders shall not be considered.

13. Tender Prices and discounts

- 13.1 The prices quoted by the Tenderer in the Form of Tender and in the Price, Schedules shall conform to the requirements specified below.
- 13.2 All lots (contracts) and items must be listed and priced separately in the Price Schedules.
- 13.3 The price to be quoted in the Form of Tender in accordance with ITT10.1 shall be the total price of the Tender, including any discounts offered.

- 134 The Tenderer shall quote any discounts and indicate the methodology for their application in the form of tender. Conditional discounts will be rejected.
- 135 Prices quoted by the Tenderer shall be fixed during the performance of the Contract and not subject to variation on any account, unless otherwise specified **in the TDS**. A Tender submitted with an adjustable price quotation shall be treated as non-responsive and shall be rejected, pursuant to ITT 28. However, if in accordance with **the TDS**, prices quoted by the Tenderer shall be subject to adjustment during the performance of the Contract, a Tender submitted with a fixed price quotation shall not be rejected, but the price adjustment shall be treated as zero.
- 136 If specified in ITT 1.1, Tenders are being invited for individual lots (contracts) or for any combination of lots (packages). Unless otherwise specified **in the TDS**, prices quoted shall correspond to 100 % of the items specified for each lot and to 100% of the quantities specified for each item of a lot. Tenderers wishing to offer discounts for the award of more than one Contract shall specify in their Tender the price reductions applicable to each package, or alternatively, to individual Contracts within the package. Discounts shall be submitted in accordance with ITT 13.4 provided the Tenders for all lots (contracts) are opened at the same time.
- 137 The terms EXW, CIP, CIF, DDP and other similar terms shall be governed by the rules prescribed in the current edition of Incoterms, published by the International Chamber of Commerce.
- 138 Prices shall be quoted as specified in each Price Schedule included in Section IV, Tendering Forms. The disaggregation of price components is required solely for the purpose of facilitating the comparison of Tenders by the Procuring Entity. This shall not in any way limit the Procuring Entity's right to contract on any of the terms offered. In quoting prices, the Tenderer shall be free to use transportation through carriers registered in any eligible country. Similarly, the Tenderer may obtain insurance services from any eligible country in accordance with ITT 3.6, Eligible Tenders. Prices shall be entered in the following manner:
- a) For Goods manufactured in Kenya:
 - i) the price of the Goods quoted EXW (ex-works, ex-factory, ex warehouse, ex showroom, or off-the-shelf, as applicable) final destination point indicated in the **TDS**, including all customs duties and sales and other taxes already paid or payable on the components and raw material used in the manufacture or assembly of the Goods;
 - ii) any sales tax and other taxes which will be payable in Kenya on the Goods if the Contract is awarded to the Tenderer; and
 - iii) the price for inland transportation, insurance, and other local services required to convey the Goods to their final destination specified **in the TDS**.
 - b) For Goods manufactured outside Kenya, to be imported:
 - i) the price of the Goods, quoted CIP named place of destination, in Kenya, as specified **in the TDS**;
 - ii) the price for inland transportation, insurance, and other local services required to convey the Goods from the named place of destination to their final destination specified **in the TDS**;
 - c) For Goods manufactured outside Kenya, already imported:
 - i) the price of the Goods, including the original import value of the Goods; plus, any mark-up (or rebate); plus, any other related local cost, and custom duties and other import taxes already paid or to be paid on the Goods already imported;
 - ii) the custom duties and other import taxes already paid (need to be supported with documentary evidence) or to be paid on the Goods already imported;
 - iii) any sales and other taxes levied in Kenya which will be payable on the Goods if the Contract is awarded to the Tenderer; and
 - iv) the price for inland transportation, insurance, and other local services required to convey the Goods from the named place of destination to their final destination (Project Site) specified **in the TDS**.
 - d) for Related Services, other than inland transportation and other services required to convey the Goods to their final destination, whenever such Related Services are specified in the

Schedule of Requirements, the price of each item comprising the Related Services (inclusive of any applicable taxes).

14. Currencies of Tender and Payment

141 The currency (ies) of the Tender, the currency (ies) of award and the currency (ies) of contract payments shall be the same.

142 The Tenderer shall quote in Kenya shillings. If allowed in the **TDS**, the Tenderer may express the Tender price in any currency, provided it shall use no more than two foreign currencies in addition to the Kenya Shilling.

143 The rates of exchange to be used by the Tenderer shall be based on the exchange rates provided by the Central Bank of Kenya on the date 30 days prior to the actual date of tender opening.

15. Documents Establishing the Eligibility and Conformity of the Goods and Related Services

151 To establish the eligibility of the Goods and Related Services in accordance with ITT 15, Tenderers shall complete the country of origin declarations in the Price Schedule Forms, included in Section IV, Tendering Forms.

152 To establish the conformity of the Goods and Related Services to the tendering document, the Tenderer shall furnish as part of its Tender the documentary evidence that the Goods conform to the technical specifications and standards specified in Section VII, Schedule of Requirements.

153 The documentary evidence may be in the form of literature, drawings or data, and shall consist of a detailed item by item description of the essential technical and performance characteristics of the Goods and Related Services, demonstrating substantial responsiveness of the Goods and Related Services to the technical specification, and if applicable, a statement of deviations and exceptions to the provisions of the Section VII, Schedule of Requirements.

154 The Tenderer shall also furnish a list giving full particulars, including available sources and current prices of spare parts, special tools, etc., necessary for the proper and continuing functioning of the Goods during the period **specified in the TDS** following commencement of the use of the goods by the Procuring Entity.

155 Standards for workmanship, process, material, and equipment, as well as references to brand names or catalogue numbers specified by the Procuring Entity in the Schedule of Requirements, are intended to be descriptive only and not restrictive. The Tenderer may offer other standards of quality, brand names, and/or catalogue numbers, provided that it demonstrates, to the Procuring Entity's satisfaction, that the substitutions ensure substantial equivalence or are superior to those specified in the Section VII, Schedule of Requirements.

16. Documents Establishing the Eligibility and Qualifications of the Tenderer

161 To establish Tenderer eligibility in accordance with ITT 4, Tenderers shall complete the Form of Tender, included in Section IV, Tendering Forms.

162 The documentary evidence of the Tenderer qualifications to perform the Contract if its Tender is accepted shall establish to the Procuring Entity's satisfaction:

- a) that, if required **in the TDS**, a Tenderer that does not manufacture or produce the Goods it offers to supply shall submit the Manufacturer's Authorization using the form included in Section IV, Tendering Forms to demonstrate that it has been duly authorized by the manufacturer or producer of the Goods to supply these Goods in Kenya;
- b) that, if required **in the TDS**, in case of a Tenderer not doing business within the Kenya, the Tenderer is or will be (if awarded the Contract) represented by an Agent in the country equipped and able to carry out the Supplier's maintenance, repair and spare parts-stocking obligations prescribed in the Conditions of Contract and/or Technical Specifications; and
- c) that the Tenderer meets each of the qualification criterion specified in Section III, Evaluation and Qualification Criteria.

17. Period of Validity of Tenders

171 Tenders shall remain valid for the Tender Validity period specified **in the TDS**. The Tender Validity period starts from the date fixed for the Tender submission deadline (as prescribed by the Procuring Entity in accordance with ITT 21.1). A Tender valid for a shorter period shall be rejected by the Procuring Entity as non-responsive.

172 In exceptional circumstances, prior to the expiration of the Tender validity period, the Procuring Entity may request Tenderers to extend the period of validity of their Tenders. The request and the responses shall be made in writing. If a Tender Security is requested in accordance with ITT 18, it shall also be extended for a corresponding period. A Tenderer may refuse the request without forfeiting its Tender Security. A Tenderer granting the request shall not be required or permitted to modify its Tender, except as provided in ITT 17.3.

- 173 If the award is delayed by a period exceeding the number of days to be specified in the **TDS** days beyond the expiry of the initial tender validity period, the Contract price shall be determined as follows:
- a) in the case of **fixed price** contracts, the Contract price shall be the tender price adjusted by the factor specified **in the TDS**;
 - b) in the case of **adjustable price** contracts, no adjustment shall be made; or in any case, tender evaluation shall be based on the tender price without taking into consideration the applicable correction from those indicated above.

18. Tender Security

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

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

- 183 If a Tender Security is specified pursuant to ITT 18.1, the Tender Security shall be a demand guarantee in any of the following forms at the Tenderer option:

- i) cash;
- ii) a bank guarantee;
- iii) a guarantee by an insurance company registered and licensed by the Insurance Regulatory Authority listed by the Authority; or
- iv) a letter of credit; or
- v) guarantee by a deposit taking micro-finance institution, Sacco society, the Youth Enterprise Development Fund or the Women Enterprise Fund.

- 184 If an unconditional guarantee is issued by a non-Bank financial institution located outside Kenya, the issuing non-Bank financial institution shall have a correspondent financial institution located in Kenya to make it enforceable unless the Procuring Entity has agreed in writing, prior to Tender submission, that a correspondent financial institution is not required. In the case of a bank guarantee, the Tender Security shall be submitted either using the Tender Security Form included in Section IV, Tendering Forms, or in another substantially similar format approved by the Procuring Entity prior to Tender submission. The Tender Security shall be valid for thirty (30) days beyond the original validity period of the Tender, or beyond any period of extension if requested under ITT 17.2.

- 185 If a Tender Security is specified pursuant to ITT 18.1, any Tender not accompanied by a substantially responsive Tender Security shall be rejected by the Procuring Entity as non-responsive.

- 186 If a Tender Security is specified pursuant to ITT 18.1, the Tender Security of unsuccessful Tenderers shall be returned as promptly as possible upon the successful Tenderer signing the Contract and furnishing the Performance Security pursuant to ITT 46. The Procuring Entity shall also promptly return the tender security to the tenderers where the procurement proceedings are terminated, all tenders were determined non-responsive or a bidder declines to extend tender validity period.

- 187 The Tender Security of the successful Tenderer shall be returned as promptly as possible once the successful Tenderer has signed the Contract and furnished the required Performance Security.

- 188 The Tender Security may be forfeited or the Tender Securing Declaration executed:
- a) if a Tenderer withdraws its Tender during the period of Tender validity specified by the Tenderer in the Form of Tender, or any extension thereto provided by the Tenderer; or
 - b) if the successful Tenderer fails to:
 - i) sign the Contract in accordance with ITT 45; or
 - ii) furnish a Performance Security in accordance with ITT 46.

- 189 Where tender securing declaration is executed, the Procuring Entity shall recommend to the PPRA that PPRA debar the Tenderer from participating in public procurement as provided in the law.

- 18.10 The Tender Security or Tender- Securing Declaration of a JV must be in the name of the JV that submits the Tender. If the JV has not been legally constituted into a legally

enforceable JV at the time of Tendering, the Tender Security or Tender-Securing Declaration shall be in the names of all future members as named in the letter of intent referred to in ITT3.1 and ITT 10.2.

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

19. Format and Signing of Tender

19.1 The Tenderer shall prepare one original of the documents comprising the Tender as described in ITT 11 and clearly mark it "ORIGINAL." Alternative Tenders, if permitted in accordance with ITT 12, shall be clearly marked "ALTERNATIVE." In addition, the Tenderer shall submit copies of the Tender, in the number **specified in the TDS** and clearly mark them "COPY." In the event of any discrepancy between the original and the copies, the original shall prevail.

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

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

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

19.5 Any inter-lineation, erasures, or overwriting shall be valid only if they are signed or initialled by the person signing the Tender.

D. Submission and Opening of Tenders

20 Sealing and Marking of Tenders

20.1 Depending on the sizes or quantities or weight of the tender documents, a tenderer may use an envelope, package or container. The Tenderer shall deliver the Tender in a single sealed envelope, or in a single sealed package, or in a single sealed container bearing the name and Reference number of the Tender, addressed to the Procuring Entity and a warning not to open before the time and date for Tender opening date. Within the single envelope, package or container, the Tenderer shall place the following separate, sealed envelopes:

- a) in an envelope or package or container marked "ORIGINAL", all documents comprising the Tender, as described in ITT 11; and
- b) in an envelope or package or container marked "COPIES", all required copies of the Tender; and
- c) if alternative Tenders are permitted in accordance with ITT 12, and if relevant:
 - i) in an envelope or package or container marked "ORIGINAL –ALTERNATIVE TENDER", the alternative Tender; and
 - ii) in the envelope or package or container marked "COPIES- ALTERNATIVE TENDER", all required copies of the alternative Tender.

20.2 The inner envelopes or packages or containers shall:

- a) bear the name and address of the Procuring Entity.
- b) bear the name and address of the Tenderer; and
- c) bear the name and Reference number of the Tender.

20.3 Where a tender package or container cannot fit in the tender box, the procuring entity shall:

- a) Specify in the **TDS** where such documents should be received.
- b) maintain a record of tenders received and issue acknowledgement receipt note to each tenderer specifying time and date of receipt.
- c) Ensure all tenders received are handed over to the tender opening committee for opening at the specified opening place and time.

20.4 If an envelope or package or container is not sealed and marked as required, the *Procuring Entity* will assume no responsibility for the misplacement or premature opening of the Tender. Tenders misplaced or opened prematurely will not be accepted.

21. Deadline for Submission of Tenders

- 21.1 Tenders must be received by the Procuring Entity at the address and no later than the date and time specified **in the TDS**. When so specified **in the TDS**, Tenderers shall have the option of submitting their Tenders electronically. Tenderers submitting Tenders electronically shall follow the electronic Tender submission procedures **specified in the TDS**.
- 21.2 The Procuring Entity may, at its discretion, extend the deadline for the submission of Tenders by amending the tendering document in accordance with ITT7, in which case all rights and obligations of the Procuring Entity and Tenderers previously subject to the deadline shall thereafter be subject to the deadline as extended.

22. Late Tenders

- 22.1 The Procuring Entity shall not consider any Tender that arrives after the deadline for submission of Tenders. Any Tender received by the Procuring Entity after the deadline for submission of Tenders shall be declared late, rejected, and returned unopened to the Tenderer.

23. Withdrawal, Substitution, and Modification of Tenders

- 23.1 A Tenderer may withdraw, substitute, or modify its Tender after it has been submitted by sending a written notice, duly signed by an authorized representative, and shall include a copy of the authorization (the power of attorney) in accordance with ITT19.3, (except that withdrawal notices do not require copies). The corresponding substitution or modification of the Tender must accompany the respective written notice. All notices must be:
- a) prepared and submitted in accordance with ITT 20 and 21 (except that withdrawal notices do not require copies), and in addition, the respective envelopes shall be clearly marked "WITHDRAWAL," "SUBSTITUTION," or "MODIFICATION;" and
 - b) received by the Procuring Entity prior to the deadline prescribed for submission of Tenders, in accordance with ITT 22.
- 23.3 Tenders requested to be withdrawn in accordance with ITT 23.1 shall be returned unopened to the Tenderers.
- 23.4 No Tender may be withdrawn, substituted, or modified in the interval between the deadline for submission of Tenders and the expiration of the period of Tender validity specified by the Tenderer on the Form of Tender or any extension thereof.

24. Tender Opening

- 24.1 Except as in the cases specified in ITT 23, the Procuring Entity shall, at the Tender opening, publicly open and read out all Tenders received by the deadline at the date, time and place specified **in the TDS** in the presence of Tenderers' designated representatives who choose to attend, including to attend any specific electronic tender opening procedures if electronic tendering is permitted in accordance with ITT 21.1, shall be as specified **in the TDS**.
- 24.2 First, envelopes marked "WITHDRAWAL" shall be opened and read out and the envelope with the corresponding Tender shall not be opened, but returned to the Tenderer. If the withdrawal envelope does not contain a copy of the "power of attorney" confirming the signature as a person duly authorized to sign on behalf of the Tenderer, the corresponding Tender will be opened. No Tender withdrawal shall be permitted unless the corresponding withdrawal notice contains a valid authorization to request the withdrawal and is read out at Tender opening.
- 24.3 Next, envelopes marked "SUBSTITUTION" shall be opened and read out and exchanged with the corresponding Tender being substituted, and the substituted Tender shall not be opened, but returned to the Tenderer. No Tender substitution shall be permitted unless the corresponding substitution notice contains a valid authorization to request the substitution and is read out at Tender opening.
- 24.4 Next, envelopes marked "MODIFICATION" shall be opened and read out with the corresponding Tender. No Tender modification shall be permitted unless the corresponding modification notice contains a valid authorization to request the modification and is read out at Tender opening.
- 24.5 Next, all remaining envelopes shall be opened one at a time, reading out: the name of the

Tenderer and whether there is a modification; the total Tender Prices, per lot (contract) if applicable, including any discounts and alternative Tenders; the presence or absence of a Tender Security, if required; and any other details as the Procuring Entity may consider appropriate.

- 246** Only Tenders, alternative Tenders and discounts that are opened and read out at Tender opening shall be considered further for evaluation. The Form of Tender and pages of the Bills of Quantities are to be initialed by the members of the tender opening committee attending the opening. The number of representatives of the Procuring Entity to sign shall be specified in the TDS.
- 247** The Procuring Entity shall neither discuss the merits of any Tender nor reject any Tender (except for late Tenders, in accordance with ITT 22.1).
- 248** The Procuring Entity shall prepare a record of the Tender opening that shall include, as a minimum:
- a) the name of the Tenderer and whether there is a withdrawal, substitution, or modification;
 - b) the Tender Price, per lot (contract) if applicable, including any discounts;
 - c) any alternative Tenders;
 - d) the presence or absence of a Tender Security or Tender-Securing Declaration, if one was required;
 - e) number of pages of each tender document submitted.
- 249** The Tenderers' representatives who are present shall be requested to sign the record. The omission of a Tenderer signature on the record shall not invalidate the contents and effect of the record. A copy of the tender opening register shall be issued to a Tenderer upon request.

E. Evaluation and Comparison of Tenders

25. Confidentiality

- 25.1** Information relating to the evaluation of Tenders and recommendation of contract award, shall not be disclosed to Tenderers or any other persons not officially concerned with the tendering process until the information on Intention to Award the Contract is transmitted to all Tenderers in accordance with ITT 41.
- 25.2** Any effort by a Tenderer to influence the Procuring Entity in the evaluation or contract award decisions may result in the rejection of its Tender.
- 25.3** Notwithstanding ITT 25.2, from the time of Tender opening to the time of Contract Award, if any Tenderer wishes to contact the Procuring Entity on any matter related to the Tendering process, it should do so in writing.

26. Clarification of Tenders

- 26.1** To assist in the examination, evaluation, comparison of the Tenders, and qualification of the Tenderers, the Procuring Entity may, at its discretion, ask any Tenderer for a clarification of its Tender. Any clarification submitted by a Tenderer in respect to its Tender and that is not in response to a request by the Procuring Entity shall not be considered. The Procuring Entity's request for clarification and the response shall be in writing. No

change, including any voluntary increase or decrease, in the prices or substance of the Tender shall be sought, offered, or permitted except to confirm the correction of arithmetic errors discovered by the Procuring Entity in the Evaluation of the Tenders, in accordance with ITT 30.

If a Tenderer does not provide clarifications of its Tender by the date and time set in the Procuring Entity's request for clarification, its Tender may be rejected.

27. Deviations, Reservations, and Omissions

- 27.1** During the evaluation of Tenders, the following definitions apply:
- a) "Deviation" is a departure from the requirements specified in the Tendering document;
 - b) "Reservation" is the setting of limiting conditions or withholding from complete acceptance of the requirements specified in the tendering document; and

- c) "Omission" is the failure to submit part or all of the information or documentation required in the tendering document.

28. Determination of Responsiveness

28.1 The Procuring Entity's determination of a Tender's responsiveness is to be based on the contents of the Tender itself, as defined in ITT28.2.

28 A substantially responsive Tender is one that meets the requirements of the tendering document without material deviation, reservation, or omission. A material deviation, reservation, or omission is one that:

- a) if accepted, would:
 - i) affect in any substantial way the scope, quality, or performance of the Goods and Related Services specified in the Contract; or
 - ii) limit in any substantial way, inconsistent with the tendering document, the Procuring Entity's rights or the Tenderer obligations under the Contract; or
- b) if rectified, would unfairly affect the competitive position of other Tenderers presenting substantially responsive Tenders.

28.2 The Procuring Entity shall examine the technical aspects of the Tender submitted in accordance with ITT 15 and ITT 16, in particular, to confirm that all requirements of Section VII, Schedule of Requirements have been met without any material deviation or reservation, or omission.

28.3 If a Tender is not substantially responsive to the requirements of tendering document, it shall be rejected by the Procuring Entity and may not subsequently be made responsive by correction of the material deviation, reservation, or omission.

29. Non-conformities, Errors and Omissions

29.1 Provided that a Tender is substantially responsive, the Procuring Entity may waive any non-conformities in the Tender.

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

29.3 Provided that a Tender is substantially responsive, the Procuring Entity shall rectify quantifiable nonmaterial non-conformities related to the Tender Price. To this effect, the Tender Price shall be adjusted, for comparison purposes only, to reflect the price of a missing or non-conforming item or component in the manner specified **in the TDS**. The adjustment shall be based on the *average* price of the item or component as quoted in other substantially responsive Tenders. If the price of the item or component cannot be derived from the price of other substantially responsive Tenders, the Procuring Entity shall use its best estimate.

30. Arithmetical Errors

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

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

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

- c) if there is a discrepancy between words and figures, the amount in words shall prevail.

30.2 Tenderers shall be notified of any error detected in their bid during the notification of a ward.

31. Conversion to Single Currency

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

32. Margin of Preference and Reservations

- 32.1** A margin of preference may be allowed on locally manufactured goods only when the contract is open to international tendering, where the tender is likely to attract foreign goods and where the contract exceeds the threshold specified in the Regulations.

- 32.2** For purposes of granting a margin of preference on locally manufactured goods under international competitive tendering, a procuring entity shall not subject the items listed below to international tender and hence no margin of preference shall be allowed. The affected items are:

- a) motor vehicles, plant and equipment which are assembled in Kenya;
- b) furniture, textile, foodstuffs, oil and gas, information communication technology, steel, cement, leather agro-processing, sanitary products, and other goods made in Kenya; or
- c) goods manufactured, mined, extracted or grown in Kenya.

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

- 32.4** Contracts procured on basis of international competitive tendering shall not be subject to reservations to specific groups as provided in ITT 32.5.

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

33. Evaluation of Tenders

- 33.1** The Procuring Entity shall use the criteria and methodologies listed in this ITT and Section III, Evaluation and Qualification criteria. No other evaluation criteria or methodologies shall be permitted. By applying the criteria and methodologies, the Procuring Entity shall determine the Lowest Evaluated Tender. This is the Tender of the Tenderer that meets the qualification criteria and whose Tender has been determined to be:

- a) substantially responsive to the tender documents; and
- b) the lowest evaluated price.

- 33.2** Price evaluation will be done for Items or Lots (contracts), as specified **in the TDS**; and the Tender Price as quoted in accordance with ITT 14. To evaluate a Tender, the Procuring Entity shall consider the following:

- a) price adjustment due to unconditional discounts offered in accordance with ITT 13.4;
- b) converting the amount resulting from applying (a) and (b) above, if relevant, to a single currency in accordance with ITT 31;
- c) price adjustment due to quantifiable nonmaterial non-conformities in accordance with ITT 29.3; and
- d) any additional evaluation factors specified **in the TDS** and Section III, Evaluation and Qualification Criteria.

- 33.3** The estimated effect of the price adjustment provisions of the Conditions of Contract, applied over the period of execution of the Contract, shall not be considered in Tender evaluation.

- 33.4** Where the tender involves multiple lots or contracts, the tenderer will be allowed to tender

for one or more lots (contracts). Each lot or contract will be evaluated in accordance with ITT 33.2. The methodology to determine the lowest evaluated tenderer or tenderers based one lot (contract) or based on a combination of lots (contracts), will be specified in Section III, Evaluation and Qualification Criteria. In the case of multiple lots or contracts, tenderer will be will be required to prepare the Eligibility and Qualification Criteria Form for each Lot.

- 335 The Procuring Entity's evaluation of a Tender will include and consider:
- a) in the case of Goods manufactured in Kenya, sales and other similar taxes, which will be payable on the goods if a contract is awarded to the Tenderer;
 - b) in the case of Goods manufactured outside Kenya, already imported or to be imported, customs duties and other import taxes levied on the imported Good, sales and other similar taxes, which will be payable on the Goods if the contract is awarded to the Tenderer;
- 336 The Procuring Entity's evaluation of a Tender may require the consideration of other factors, in addition to the Tender Price quoted in accordance with ITT 14. These factors may be related to the characteristics, performance, and terms and conditions of purchase of the Goods and Related Services. The effect of the factors selected, if any, shall be expressed in monetary terms to facilitate comparison of Tenders, unless otherwise specified in the **TDS** from amongst those set out in Section III, Evaluation and Qualification Criteria. The additional criteria and methodologies to be used shall be as specified in ITT 33.2(d).

34. Comparison of Tenders

- 34.1 The Procuring Entity shall compare the evaluated costs of all substantially responsive Tenders established in accordance with ITT 33.2 to determine the Tender that has the lowest evaluated cost. The comparison shall be on the basis of total cost (place of final destination) prices for all goods and all prices, plus cost of inland transportation and insurance to place of destination, for goods manufactured within the Kenya, together with prices for any required installation, training, commissioning and other services.

35. Abnormally Low Tenders

- 35.1 An Abnormally Low Tender is one where the Tender price, in combination with other constituent elements of the Tender, appears unreasonably low to the extent that the Tender price raises material concerns with the Procuring Entity as to the capability of the Tenderer to perform the Contract for the offered Tender price.
- 35.2 In the event of identification of a potentially Abnormally Low Tender by the evaluation committee, the Procuring Entity shall seek written clarification from the Tenderer, including a detailed price analyses of its Tender price in relation to the subject matter of the contract, scope, delivery schedule, allocation of risks and responsibilities and any other requirements of the tendering document.
- 35.3 After evaluation of the price analysis, in the event that the Procuring Entity determines that the Tenderer has failed to demonstrate its capability to perform the contract for the offered Tender price, the Procuring Entity shall reject the Tender.

36. Abnormally High Tenders

- 36.4 An abnormally high price is one where the tender price, in combination with other constituent elements of the
- Tender, appears unreasonably too high to the extent that the Procuring Entity is concerned that it (the Procuring Entity) may not be getting value for money or it may be paying too high a price for the contract compared with market prices or that genuine competition between Tenderers is compromised.
- 36.5 In case of an abnormally high tender price, the Procuring Entity shall make a survey of the market prices, check if the estimated cost of the contract is correct and review the Tender Documents to check if the specifications, scope of work and conditions of contract are contributory to the abnormally high tenders. The Procuring Entity may also seek written clarification from the tenderer on the reason for the high tender price. The Procuring Entity shall proceed as follows:
- i) If the tender price is abnormally high based on wrong estimated cost of the contract, the Procuring Entity may accept or not accept the tender depending on the Procuring Entity's budget considerations.

- ii) If specifications, scope of work and/or conditions of contract are contributory to the abnormally high tender prices, the Procuring Entity shall reject all tenders and may retender for the contract based on revised estimates, specifications, scope of work and conditions of contract, as the case may be.

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

37. Post Qualification of the Tenderer

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

37.2 The determination shall be based upon an examination of the documentary evidence of the Tenderer qualifications submitted by the Tenderer, pursuant to ITT 15 and 16. The determination shall not take into consideration the qualifications of other firms such as the Tenderer subsidiaries, parent entities, affiliates, subcontractors (other than specialized subcontractors if permitted in the tendering document), or any other firm(s) different from the Tenderer.

37.3 An affirmative determination shall be a prerequisite for award of the Contract to the Tenderer. A negative determination shall result in disqualification of the Tender, in which event the Procuring Entity shall proceed to the Tenderer who offers a substantially responsive Tender with the next lowest evaluated cost to make a similar determination of that Tenderer qualifications to perform satisfactorily.

38. Lowest Evaluated Tender

38.1 Having compared the evaluated prices of Tenders, the Procuring Entity shall determine the Lowest Evaluated Tender. The Lowest Evaluated Tender is the Tender of the Tenderer that meets the Qualification Criteria and whose Tender has been determined to be:

- a) Most responsive to the Tender document; and
- b) the lowest evaluated price.

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

39.1 The Procuring Entity reserves the right to accept or reject any Tender, and to annul the Tendering process and reject all Tenders at any time prior to notification Award, without thereby incurring any liability to Tenderers. In case of annulment, all Tenderers shall be notified with reasons and all Tenders submitted and specifically, tender securities, shall be promptly returned to the Tenderers.

F. Award of Contract

40. Award Criteria

The Procuring Entity shall award the Contract to the successful tenderer whose tender has been determined to be the Lowest Evaluated Tender in accordance with procedures in Section 3: Evaluation and Qualification Criteria.

41. Notice of Intention to enter into a Contract

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

- a) the name and address of the Tenderer submitting the successful tender;
- b) the Contract price of the successful tender;
- c) a statement of the reason(s) the tender of the unsuccessful tenderer to whom the letter is addressed was unsuccessful, unless the price information in (c) above already reveals the reason;

- d) the expiry date of the Standstill Period; and
- e) instructions on how to request a debriefing and/or submit a complaint during the standstill period;

42. Standstill Period

- 42.1 The Contract shall not be awarded earlier than the expiry of a Standstill Period of 14 days to allow any dissatisfied candidate to launch a complaint. Where only one Tender is submitted, the Standstill Period shall not apply.
- 42.2 Where standstill period applies, it shall commence when the Procuring Entity has transmitted to each Tenderer the Notification of Intention to Enter into a Contract to the successful Tenderer.

43. Debriefing by the Procuring Entity

- 43.1 On receipt of the Procuring Entity's Notification of Intention to Enter into a Contract referred to in IIT 41, an unsuccessful tenderer may make a written request to the Procuring Entity for a debriefing on specific issues or concerns regarding their tender. The Procuring Entity shall provide the debriefing within five days of receipt of the request.
- 43.2 Debriefings of unsuccessful Tenderers may be done in writing or verbally. The Tenderer shall bear its own costs of attending such a debriefing meeting.

44. Letter of Award

Prior to the expiry of the Tender Validity Period and upon expiry of the Standstill Period specified in IIT 42, upon addressing a complaint that has been filed within the Standstill Period, the Procuring Entity shall transmit the Letter of Award to the successful Tenderer. The letter of award shall request the successful tenderer to furnish the Performance Security within 21 days of the date of the letter.

45. Signing of Contract

- 45.1 Upon the expiry of the fourteen days of the Notification of Intention to enter into contract and upon the parties meeting their respective statutory requirements, the Procuring Entity shall send the successful Tenderer the Contract Agreement.
- 45.2 Within fourteen (14) days of receipt of the Contract Agreement, the successful Tenderer shall sign, date, and return it to the Procuring Entity.
- 45.3 The written contract shall be entered into within the period specified in the notification of award and before expiry of the tender validity period.

46. Performance Security

- 46.1 Within twenty-one (21) days of the receipt of Letter of Acceptance from the Procuring Entity, the successful Tenderer, if required, shall furnish the Performance Security in accordance with the GCC 18, using for that purpose the Performance Security Form included in Section X, Contract Forms. If the Performance Security furnished by the successful Tenderer is in the form of a bond, it shall be issued by a bonding or insurance company that has been determined by the successful Tenderer to be acceptable to the Procuring Entity. A foreign institution providing a bond shall have a correspondent financial institution located in Kenya, unless the Procuring Entity has agreed in writing that a correspondent financial institution is not required.
- 46.2 Failure of the successful Tenderer to submit the above-mentioned Performance Security or sign the Contract shall constitute sufficient grounds for the annulment of the award and forfeiture of the Tender Security. In that event the Procuring Entity may award the Contract to the Tenderer offering the next lowest Evaluated Tender.
- 46.3 Performance security shall not be required for a contract, if so specified in the TDS.

47. Publication of Procurement Contract

Within fourteen days after signing the contract, the Procuring Entity shall publish and

publicize the awarded contract at its notice boards, entity website; and on the Website of the Authority in manner and format prescribed by the Authority. At the minimum, the notice shall contain the following information:






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

48. Procurement Related Complaint

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

SECTION II – TENDER DATA SHEET (TDS)

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

ITT Reference	A. General
ITT 1.1	<p>The reference number of the Invitation for Tenders is: [KGN- HYD-052-2021]</p> <p>The Procuring Entity is: Kenya Electricity Generating Company Plc</p> <p>The name of the Contract is: Tender for Design, Manufacture, Delivery, Supervision of Assembly, Testing and Commissioning of 40MVA, 11/132KV, ONAN/ONAF Generator Step Up Transformer for Kamburu Power Station</p> <p>The number and identification of lots (contracts) comprising this Invitation for Tenders is: Schedule 1, 2 and 3</p>
ITT 1.2(a)	<p>Electronic –Procurement System</p> <p>The Procuring Entity shall use the following electronic-procurement system to manage this Tendering process via www.kengen.co.ke (https://eprocurement.kengen.co.ke:50001/irj/portal)</p> <p>SUBMISSION OF TENDERS ONLINE:</p> <p>For suppliers registering for the first time using the link https://supplierregistration.kengen.co.ke:4302/slc_selfreg ensure the "Public Tender" checkbox is ticked so that the login details are sent to suppliers automatically.</p>  <p>It is a mandatory requirement that all documents are uploaded to the c-folder of the SRM System through the link https://eprocurement.kengen.co.ke:50001/irj/portal 'Technical RFX response'. Responses documents attached to the 'notes and attachments' tab will not be considered for evaluation.</p>  <p>Prices MUST be entered under item tab of the RFX and MUST be similar to the prices in the price/BoQ Schedule.</p>  <p>Bidders should confirm on the supplier portal that the status of their RFX response shows "Submitted" and not "Saved" to ensure their RFX response is submitted.</p>  <p>Bidders who have submitted their bids should not click on WITHDRAW but click on EDIT to amend their bid response with appropriate changes if they desire to do so.</p> <p>Manuals to guide on the bidding process are accessible via the KenGen Tenders Portal.</p>  <p>Bidders to note that system challenges/support related to bid submission issues shall be addressed 48 hours before tender opening date and time.</p> <p>The tender closing date is 20th January, 2022 at 2.00 p.m.</p>
ITT 3.0	<p>Eligibility</p> <p>This tender is open to INTERNATIONAL FIRMS</p> <p>Tender eligibility and qualifications</p> <p>Proof of eligibility, qualification documents of evidence (see evaluation criteria)</p>
ITT 3.1	<p>Maximum number of members in the Joint Venture (JV) shall be 3.</p> <p>No firm can participate in more than one JV for purposes of this tender.</p>
ITT 3.7	<p>A list of debarred firms and individuals is available on the PPRA's website: www.ppra.go.ke</p>
ITT 5.0	B. Contents of Tendering Document
ITT 6.0	<p>For Clarification of Tender purposes only, the Procuring Entity's address is:</p> <p>Attention: Supply Chain Director, Kenya Electricity Generating Company PLC, Ground Floor, KenGen Pension Plaza I,</p>

	<p>Kolobot Road, Parklands, P.O. Box 47936, 00100 NAIROBI.</p> <p>tenders@kengen.co.ke; cc pogeto@kengen.co.ke jtheuri@kengen.co.ke</p> <p>Requests for clarification should be received by the Procuring Entity no later than: 10 days before tender closing date.</p> <p>Web page: [www.kengen.co.ke].</p>
	C. Preparation of Tenders
ITT 10 (j)	The Tenderer shall submit the following additional documents in its Tender as per EXECUTIVE ORDER NO. 2 OF 2018 as provided in this tender document.
ITT 12.1	Alternative Tenders <i>“shall not be”</i> considered
ITT 13.0	Tender Prices Prices indicated in the tender form shall be DAP Kamburu Power Station
ITT 13.5	The prices quoted by the Tenderer shall not be subject to adjustment during the performance of the Contract and not subject of variation. A Tender submitted with an adjustable price quotation shall be treated as non-responsive and shall be rejected.
ITT 13.8 (a) (i)	Place of final destination: DAP Kamburu Power Station
ITT 13.8 (a) (iii)	Final Destination (Project Site): Kamburu Power Station
ITT 13.8 (b) (i)	Named place of destination, in Kenya is Kamburu Power Station
ITT 14.2	Foreign currency requirements- Allowed- USD OR KENYA SHILLING
ITT 16.2 (a)	Manufacturer’s authorization is: <i>“required”</i> . Manufacturer tendering shall show proof as manufacturers i.e. MSDS or a Declaration etc
ITT 17.1	The Tender validity period shall be 154 days.
ITT 18.1	<p>A <i>Tender Security shall be</i> required.</p> <p>Tender Security valid for 30 days beyond the tender validity period from any other from any registered bank by the Central Bank of Kenya</p> <p>The tender security shall be in the amount of Kenya Shillings One Million (KES 1,000,000.00) (equivalent to USD.9,000) in form of an on-demand bank guarantee from a registered bank by Central Bank of Kenya, or a corresponding Kenyan Bank. and be dropped at the tender box located on ground floor. On or before the submission deadline.</p>
ITT 19.1	<p><i>For online Submission</i></p> <p>Tender documents Must be submitted through our e-procurement platform found at www.kengen.co.ke (https://eprocurement.kengen.co.ke:50001/irj/portal)</p> <ul style="list-style-type: none"> For suppliers registering for the first time ensure the “Public Procurement” checkbox is ticked so that the login details are sent to suppliers automatically. It is a mandatory requirement that all documents are uploaded to the <i>c-folder</i> of the SRM System through the link <i>‘Technical RFx response’</i>. No responses/documents shall be attached to the <i>‘notes and attachments</i> or <i>Public</i> folder tab as they will not be considered for evaluation.
ITT 19.3	The written confirmation of authorization to sign on behalf of the Tenderer shall consist of: <i>Power of Attorney</i>
	D. Submission and Opening of Tenders
20.4	<p>The Original tender Security shall be dropped at the Tender Box located in the address below;</p> <p>Supply Chain Director’s office Kenya Electricity Generating Company PLC, Ground Floor, KenGen Pension Plaza 1, Kolobot Road, Parklands, P.O. Box 47936, 00100 NAIROBI.</p>

	Only online tender submission through the KenGen portal is allowed.
ITT 24.1	<p>The Tender opening shall take place at:</p> <p style="text-align: center;">Kenya Electricity Generating Company PLC, 6th Floor, KenGen Pension Plaza II, Kolobot Road, Parklands, P.O. Box 47936, 00100 NAIROBI.</p> <p>Tender Opening date and time 20th January 2022 at 2.30 p.m.</p> <p>Note; In an effort to curb the spread of the COVID-19 pandemic the following measures shall apply:</p> <p><input type="checkbox"/> Where bidders or their representatives choose to attend the bid opening, KenGen shall limit the persons to a maximum of 5 people, whom shall be nominated by the bidders present for the opening session.</p> <p><input type="checkbox"/> The tender opening shall be conducted in a spacious environment and observing a social distance of at least 1.5 meters away from each other. Screening and registration of all attendees shall take place in all sessions.</p> <p><input type="checkbox"/> Failure to attend the bid opening shall not invalidate the process. Bidders can request for the tender opening minutes of the tender opening session through the following email address tenders@kengen.co.ke</p>
E. Evaluation and Comparison of Tenders	
ITT 31.1	Where other currencies are used, the procuring entity shall convert these currencies to Kenya Shillings using the selling exchange rate on the date of tender closing provided by the Central Bank of Kenya before comparing all the responsive tenders.
ITT 32.3	A margin of preference and/or reservation <i>shall apply for goods.</i>
	<p>Preliminary Examination Tender sum as submitted and read out during tender opening is absolute and shall not be subject to correction, adjustment or amendment on any way Sec.82 of PPADA 2015, Subject to section 79(2)(b) of the Act, any error in the submitted tender arising from a miscalculation of unit price, quantity, subtotal and total bid price shall be considered as a major deviation that affects substance of the tender and shall lead to disqualification of the tender as non-responsive.</p>
	<p>Due Diligence KenGen may at its own discretion conduct due diligence on the eligible bidders to establish their ability to perform the contract before award of the contract.</p>
	(a)
	F. Award of Contract
ITT 46.3	Performance security shall be at 10% of the Contract Price where the contract value is above five million shillings.
47	Liquidated damages
	<p>FINANCIAL EVALUATION CRITERIA Lowest Evaluated Tender</p>

SECTION III - EVALUATION AND QUALIFICATION CRITERIA

1. General Provisions

1.1 Wherever a Tenderer is required to state a monetary amount, Tenderers should indicate the Kenya Shilling equivalent using the rate of exchange determined as follows:

a) For business turnover or financial data required for each year - Exchange rate prevailing on the last day of the respective calendar year (in which the amounts for that year is to be converted) was originally established.

b) Value of single contract - Exchange rate prevailing on the date of the contract signature.

c) Exchange rates shall be taken from the publicly available source identified in the ITT 14.3. Any error in determining the exchange rates in the Tender may be corrected by the Procuring Entity.

1.2 This section contains the criteria that the Procuring Entity shall use to evaluate tender and qualify tenderers. No other factors, methods or criteria shall be used other than those specified in this tender document. The Tenderer shall provide all the information requested in the forms included in Section IV, Tendering Forms. The Procuring Entity should use the Standard Tender Evaluation Report for Goods and Works for evaluating Tenders.

2. Evaluation of Tenders (ITT 33)

2.1 Successful Tender or Tenders

The Procuring Entity shall use the criteria and methodologies listed in this Section to evaluate Tenders. By applying these criteria and methodologies, the Procuring Entity shall determine the successful Tender or Tenders which has/have been determined to:

a) be substantially responsive to the tender documents;

b) offer the lowest evaluated cost to the Procuring Entity for all items of Goods to be procured based on either a single Contract or all multiple Contracts combined, as the case may be, in accordance with the ITT 13.6 inviting Tender prices and discounts, and provisions made of the Tender Document for evaluation of tenders and award of contract (s); and

c) be offered by Tenderer or Tenderers that substantially meet the qualification criteria applicable for Contract or combined Contracts for which they are selected.

2.2 Evaluation of Tenders

~~Preliminary examination for~~ Determination of Responsiveness

The Procuring Entity will start by examining all tenders to ensure they meet in all respects the eligibility criteria and other mandatory requirements in the ITT, and that the tender is complete in all aspects in meeting the requirements provided for in the preliminary evaluation criteria outlined below. The Standard Tender Evaluation Report Document for Goods and Works for evaluating Tenders provides very clear guide on how to deal with review of these requirements. Tenders that do not pass the Preliminary Examination will be considered non-responsive and will not be considered further.

No	MANDATORY REQUIREMENTS
MR 1	Copy of Registration Certificate /Certificate of Incorporation in the country of domicile
MR 2	Valid copy of the Business permit for local firms. Foreign firms to provide where applicable.
MR 3	Valid Tax Compliance certificate for local firms For foreign firms to provide equivalent or declaration that they are tax compliant
MR 4	Tender validity duration 154 days from the date of opening.

No	MANDATORY REQUIREMENTS	
MR 5	Tender Security of KSh.1,000,000.00 or USD 9,000 valid for 30 days beyond the tender validity period from a corresponding Kenyan bank registered with Central Bank of Kenya.	
MR 6	Confidential Business Questionnaire dully filled, signed & stamped	
MR 7	Duly filled and signed and stamped Form of Tender	
MR 8	Duly filled and signed and stamped price schedule	
MR 9	Dully filled and stamped Addendum(s)/Clarification(s) issued must be attached (Where Applicable)	
MR10	Tender documents Must be submitted through our e-procurement platform found at www.kengen.co.ke (https://eprocurement.kengen.co.ke:50001/irj/portal)	
MR 11	The Tender MUST be submitted be in the required format and serialized on each page of the bid submitted, Sec.74.1.i. of the PPADA, 2015.	
MR 12	The tender has been dully signed by the person lawfully authorized to do so through the Power of Attorney	
MR 13	Provide proof of Transformer Manufacturer Authorization Letter (if bidder is not the manufacturer). This to be addressed to the Procuring Entity.	
MR 14	Provide proof of On Load Tap Changer from MR Germany Manufacturer Authorization Letter addressed to the Procuring Entity.	
MR 15	Annual Accounts The audited financial statements by a registered audit firm for the latest 3 years shall be submitted with the oldest being 2018	
MR 16	Financial ratios	In the audited financial statements for the last 3 years submitted, the bidder shall meet the following 2 ratios for all the 3 years. Current Ratio 1:1 Debt to Equity Ratio of less than 2.33 times
MR 17	Dully filled signed and stamped Self Declaration form that the tenderer is not debarred in the matter of PPADA 2015	
MR 18	Dully filled signed and stamped Self Declaration form that the tenderer will not engage in any corrupt or Fraudulent Practice.	
MR 19	Duly filled Certificate of Independent Tender Declaration	
MR 20	Evidence of attendance to the site visit (attach site visit certificate)	
MR 21	Valid ISO 9000 certification on quality (or equivalent) for the Transformer Manufacturer	
MR 22	Statement of NO Load and Full Load losses (capitalized losses)	
MR 23	Training Program & schedule.	
MR 24	Guarantee that supplier shall meet the spares demand during the life of the transformer	

2.2.1 Evaluation of Technical aspects of the Tender

The Procuring Entity shall evaluate the Technical aspects of the Tender to determine compliance with the Procuring Entity's requirements under Section V 'Schedule of Requirement' and whether the Tenders are substantially responsive to the Technical Specifications and other Requirements.

TECHNICAL EVALUATION ON CAPACITY TO DELIVER THE CONTRACT

Technical evaluation shall be carried out only if the tender is determined to be responsive to the preliminary examination.

Bidder must demonstrate conformance to the all the technical specifications and requirements as per section V of the tender document.

The Technical Evaluation will also be based on compliance with the technical specifications set out in Section V of this tender document.

No	Item description	Bidders' response (Yes/ No)
TR 1	Compliance to technical evaluation	
TR 2	Company profile	
TR 3	Proof of technical material data sheet, catalogues and brochures for the products to be supplied:- <ul style="list-style-type: none">• HV, HVN & LV Bushings• Current Transformer, Conservator, Mercury thermometers, pressure relief devises, radiators Buchholz relay, Transformer oil.• Conservator devices including rubber cell.• Brochures of each commissioning equipment.	
TR 4	Layout dimensional drawing for Transformer Tank, transportation layout and typical assembly drawings showing device locations.	
TR 5	Drawings on Main Tank accessories.	
TR 6	Delivery period offered in the tender. The delivery period should not exceed 12 months after the date of signing the Contract	
TR 7	Warranty shall be at least 24 months. This shall be indicated in the Manufacturer Authorization letter	
TR 8	Price schedules have been completed in their entirety by the tenderer at the time of tendering. All entries are filled, there are no blank entries.	
TR9	Bidder has not offered materials and spares with capacity, rating, constituent component quantities or performance lower than procuring entity requirements	
TR10	Detailed Job safety Analysis (JSA) prepared by certified DOSH Member. For the successful bidder, this shall be revised within 14 days from commencement of project	
TR11	Detailed program of works (in MS Projects or applicable equivalent) showing clearly the Contractor proposed duration to carry out the works. For the successful bidder, this shall be revised within 14 days from commencement of project.	

PRICE EVALUATION

Consistent with and in addition to the criteria listed in ITT 33.3 and ITT 29.3; and ITT 34 and its subparagraphs the following criteria shall apply:

STAGE 3. FINANCIAL EVALUATION

Financial evaluation shall involve checking completeness of financial bids

- Presence of a duly filled signed and stamped tender form and price schedule.
- Financial evaluation shall be based on Total Cost of Ownership basis. This entails the quoted price and amortized losses based on the 30 years life of the Transformer.
- The quoted Spares and service package shall be procured as and when necessary.
- Training package
- Preferential treatment for local and citizen contractors.

In accordance to evaluation criteria, preferential treatment for local and citizen contractors shall apply in accordance to Section 164 (c), (d) and (e) of The Public Procurement And Asset Disposal Regulations, 2020.

Shareholding of Kenyan Citizen	Percentage Margin of Preference (on read out price)
Less than 20% but above 5%	6%
Less than 50% but above 20%	8%
Over 50%	10%
Joint Venture with citizen contractors	10%

The Margin of Preference shall apply for price comparison only. Thereafter the award will be based on the lowest evaluated bidder (Price as read out)

Tenderers who qualify for this scheme shall attach CR12 forms to support their bid.

Citizen contractor means a person or a firm **wholly owned** and controlled by persons who are citizens of Kenya;

- Award shall be based on the **lowest evaluated bidder per Schedule.**

Tender sum as submitted and read out during tender opening is absolute and final and shall not be subject to correction, adjustment or amendment major deviation shall result in disqualification.

STAGE 4. DUE DILLIGENCE

KenGen may, prior to award of the tender, conduct due diligence on the recommended bidder to ascertain the information provided in their bid document.

SECTION IV ~ TENDERING FORMS

Form of Tender Tenderer Information Form Tenderer JV Members Information Form

Price Schedule: Goods Manufactured Outside Kenya, to be Imported Price Schedule: Goods

Manufactured Outside Kenya, already imported Price Schedule: Goods Manufactured in Kenya

Price and Completion Schedule – Related Services Form of Tender Security – Demand Guarantee

Form of Tender Security (Tender Bond)

Form of Tender-Securing Declaration Manufacturer's Authorization Form

FORM OF TENDER

INSTRUCTIONS TO TENDERERS

- i) *The Tenderer must prepare this Form of Tender on stationery with its letterhead clearly showing the Tenderer's complete name and business address.*
- ii) *All italicized text is to help Tenderer in preparing this form.*
- iii) *Tenderer must complete and sign CERTIFICATE OF INDEPENDENT TENDER DETERMINATION and the SELF DECLARATION OF THE TENDERER attached to this Form of Tender.*

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

Tender submission] **Tender** **Name** **and**

Identification:.....*[insert* *identification]* **Alternative**

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

To... *[insert complete name of Procuring Entity]*

- a) **No reservations:** We have examined and have no reservations to the Tendering document, including Addenda issued in accordance with Instructions to tenderers (ITT 7);
- b) **Eligibility:** We meet the eligibility requirements and have no conflict of interest in accordance with ITT 3;
- c) **Tender/Proposal-Securing Declaration:** We have not been suspended nor declared ineligible by the Procuring Entity based on execution of a Tender-Securing Declaration.
or
Proposal-Securing Declaration in Kenya in accordance with ITT 3.6;
- d) **Conformity:** We offer to supply in conformity with the Tendering document and in accordance with the Delivery Schedules specified in the Schedule of Requirements the following Goods: *[insert a brief description of the Goods and Related Services]*;
- e) **Tender Price:** The total price of our Tender, excluding any discounts offered in item (f) below is:

Option 1, in case of one lot: Total price is: *[insert the total price of the Tender in words and figures, indicating the various amounts and the respective currencies]*;

or

Option 2, in case of multiple lots: (a) Total price of each lot *[insert the total price of each lot in words and figures, indicating the various amounts and the respective currencies]*; and (b) Total price of all lots (sum of all lots) *[insert the total price of all lots in words and figures, indicating the various amounts and the respective currencies]*;
- f) **Discounts:** The discounts offered and the methodology for their application are:
 - i) The discounts offered are: *[Specify in detail each discount offered.]*
 - ii) The exact method of calculations to determine the net price after application of discounts are shown below: *[Specify in detail the method that shall be used to apply the discounts]*;
- g) **Tender Validity Period:** Our Tender shall be valid for the period specified in TDS 17.1 (as amended, if applicable) from the date fixed for the Tender submission deadline specified in TDS 21.1 (as amended, if applicable), and it shall remain binding upon us and may be accepted at any time before the expiration of that period;
- (h) **Performance Security:** If our Tender is accepted, we commit to obtain a performance security in accordance with the Tendering document;

- i) **One Tender per tenderer:** We are not submitting any other Tender(s) as an individual tenderer, and we are not participating in any other Tender(s) as a Joint Venture member, or as a subcontractor, and meet the requirements of ITT 3.9, other than alternative Tenders submitted in accordance with ITT 12;
- j) **Suspension and Debarment:** We, along with any of our subcontractors, suppliers, consultants, manufacturers, or service providers for any part of the contract, are not subject to, and not controlled by any entity or individual that is subject to, a temporary suspension or a debarment imposed by the Procuring Entity. Further, we are not ineligible under the Kenya laws or official regulations or pursuant to a decision of the United Nations Security Council;
- k) **State-owned enterprise or institution:** *[select the appropriate option and delete the other] [We are not a state-owned enterprise or institution] / [We are a state-owned enterprise or institution but meet the requirements of ITT 3.7];*
- l) **Commissions, gratuities, fees:** We have paid, or will pay the following commissions, gratuities, or fees with respect to the Tendering process or execution of the Contract: *[insert complete name of each Recipient, its full address, the reason for which each commission or gratuity was paid and the amount and currency of each such commission or gratuity]*

Name of Recipient	Address	Reason	Amount

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

- m) **Binding Contract:** We understand that this Tender, together with your written acceptance thereof included in your Letter of Acceptance, shall constitute a binding contract between us, until a formal contract is prepared and executed;
- n) **Procuring Entity Not Bound to Accept:** We understand that you are not bound to accept the lowest evaluated cost Tender, the Best Evaluated Tender or any other Tender that you may receive; and
- o) **Fraud and Corruption:** We hereby certify that we have taken steps to ensure that no person acting for us or on our behalf engages in any type of Fraud and Corruption.
- p) **Code of Ethical Conduct:** We undertake to adhere by the Code of Ethics for Persons Participating in Public Procurement and Asset Disposal, copy available from _____ *(specify website)* during the procurement process and the execution of any resulting contract.
- q) **Collusive practices:** We hereby certify and confirm that the tender is genuine, non-collusive and made with the intention of accepting the contract if awarded. To this effect we have signed the “Certificate of Independent tender Determination” attached below.
- r) We, the Tenderer, have completed fully and signed the following Forms as part of our Tender:
- s) Tenderer's Eligibility; Confidential Business Questionnaire – to establish we are not in any conflict to interest.
- t) Certificate of Independent Tender Determination – to declare that we completed the tender without colluding with other tenderers.
- u) Self-Declaration of the Tenderer – to declare that we will, if awarded a contract, not engage in any form of fraud and corruption.
- v) Declaration and commitment to the Code of Ethics for Persons Participating in Public Procurement and Asset Disposal.

Further, we confirm that we have read and understood the full content and scope of fraud and corruption as informed in

“Appendix 1- Fraud and Corruption” attached to the Form of Tender.

Name of the tenderer: *[insert complete name of the tenderer]

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

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

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

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

[insert month], [insert year]

***:** In the case of the Tender submitted by a Joint Venture specify the name of the Joint Venture as tenderer.

****:** Person signing the Tender shall have the power of attorney given by the tenderer. The power of attorney shall be attached with the Tender Schedules.

CERTIFICATE OF INDEPENDENT TENDER DETERMINATION

I, the undersigned, in submitting the accompanying Letter of Tender to the _____

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

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

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

Name _____

SELF-DECLARATION FORMS

FORM SD1

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

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

1. THAT I am the Company Secretary/ Chief Executive/Managing Director/Principal Officer/Director of
.....(*insert name of the Company*) who is a Bidder in respect of **Tender No.**
.....for.....(*insert
tender
title/description*) for.....(*insert name of the Procuring entity*) and duly
authorized and competent to make this statement.
2. THAT the aforesaid Bidder, its Directors and subcontractors have not been cak
3. red from participating in procurement proceeding under Part IV of the Act.
4. THAT what is disposed to herein above is true to the best of my knowledge, information and belief.

.....
....
(Title)

.....
....
(Signature)

.....
.....
(Date)

Bidder Official Stamp

FORM SD2

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

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

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

.....

.....

..... (Title)

(Signature)

(Date)

Bidder's Official Stamp

DECLARATION AND COMMITMENT TO THE CODE OF ETHICS

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

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

Name of Authorized signatory.....

Sign.....

Position.....

Office address.....

Telephone.....

E-

mail.....

.....

Name of the Firm/Company.....

Date.....

(Company Seal/ Rubber Stamp where applicable)

Witness

Name

.....

.....

Sign.....

Date.....

APPENDIX 1- FRAUD AND CORRUPTION

(Appendix 1 shall not be modified)

1. Purpose

- 1.1 The Government of Kenya's Anti-Corruption and Economic Crime laws and their sanction's policies and procedures, Public Procurement and Asset Disposal Act (*no. 33 of 2015*) and its Regulation, and any other Kenya's Acts or Regulations related to Fraud and Corruption, and similar offences, shall apply with respect to Public Procurement Processes and Contracts that are governed by the laws of Kenya.

2. Requirements

- 2.1 The Government of Kenya requires that all parties including Procuring Entities, Tenderers, (applicants/proposers), Consultants, Contractors and Suppliers; any Sub-contractors, Sub-consultants, Service providers or Suppliers; any Agents (whether declared or not); and any of their Personnel, involved and engaged in procurement under Kenya's Laws and Regulation, observe the highest standard of ethics during the procurement process, selection and contract execution of all contracts, and refrain from Fraud and Corruption and fully comply with Kenya's laws and Regulations as per paragraphs 1.1 above.
- 2.2 Kenya's public procurement and asset disposal act (*no. 33 of 2015*) under Section 66 describes rules to be followed and actions to be taken in dealing with Corrupt, Coercive, Obstructive, Collusive or Fraudulent practices, and Conflicts of Interest in procurement including consequences for offences committed. A few of the provisions noted below highlight Kenya's policy of no tolerance for such practices and behavior:
- 1) a person to whom this Act applies shall not be involved in any corrupt, coercive, obstructive, collusive or fraudulent practice; or conflicts of interest in any procurement or asset disposal proceeding;
 - 2) A person referred to under subsection (1) who contravenes the provisions of that sub-section commits an offence;
 - 3) Without limiting the generality of the subsection (1) and (2), the person shall be—
 - a) disqualified from entering into a contract for a procurement or asset disposal proceeding; or
 - b) if a contract has already been entered into with the person, the contract shall be voidable;
 - 4) The voiding of a contract by the procuring entity under subsection (7) does not limit any legal remedy the procuring entity may have;
 - 5) An employee or agent of the procuring entity or a member of the Board or committee of the procuring entity who has a conflict of interest with respect to a procurement:-
 - a) shall not take part in the procurement proceedings;
 - b) shall not, after a procurement contract has been entered into, take part in any decision relating to the procurement or contract; and
 - c) shall not be a subcontractor for the bidder to whom was awarded contract, or a member of the group of bidders to whom the contract was awarded, but the subcontractor appointed shall meet all the requirements of this Act.
 - 6) An employee, agent or member described in subsection (1) who refrains from doing anything prohibited under that subsection, but for that subsection, would have been within his or her duties shall disclose the conflict of interest to the procuring entity;
 - 7) If a person contravenes subsection (1) with respect to a conflict of interest described in subsection (5)(a) and the contract is awarded to the person or his relative or to another person in whom one of them had a direct or indirect pecuniary interest, the contract shall be terminated and all costs incurred by the public entity shall be made good by the awarding officer. Etc.
- 2.3 In compliance with Kenya's laws, regulations and policies mentioned above, the Procuring Entity:
- a) Defines broadly, for the purposes of the above provisions, the terms set forth below as follows:
 - i) “corrupt practice” is the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party;
 - ii) “fraudulent practice” is any act or omission, including misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain financial or other benefit or to

avoid an obligation;

- iii) “collusive practice” is an arrangement between two or more parties designed to achieve an improper purpose, including to influence improperly the actions of another party;
 - iv) “coercive practice” is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party;
 - v) “obstructive practice” is:
 - deliberately destroying, falsifying, altering, or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede investigation by Public Procurement Regulatory Authority (PPRA) or any other appropriate authority appointed by Government of Kenya into allegations of a corrupt, fraudulent, coercive, or collusive practice; and/or threatening, harassing, or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation; or
 - acts intended to materially impede the exercise of the PPRA's or the appointed authority's inspection and audit rights provided for under paragraph 2.3 e. below.
 - b) Defines more specifically, in accordance with the above procurement Act provisions set forth for fraudulent and collusive practices as follows:

“fraudulent practice” includes a misrepresentation of fact in order to influence a procurement or disposal process or the exercise of a contract to the detriment of the procuring entity or the tenderer or the contractor, and includes collusive practices amongst tenderers prior to or after tender submission designed to establish tender prices at artificial non-competitive levels and to deprive the procuring entity of the benefits of free and open competition.
 - c) Rejects a proposal for award¹ of a contract if PPRA determines that the firm or individual recommended for award, any of its personnel, or its agents, or its sub-consultants, sub-contractors, service providers, suppliers and/ or their employees, has, directly or indirectly, engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices in competing for the contract in question;
 - d) Pursuant to the Kenya's above stated Acts and Regulations, may sanction or debar or recommend to appropriate authority (ies) for sanctioning and debarment of a firm or individual, as applicable under the Acts and Regulations;
 - e) Requires that a clause be included in Tender documents and Request for Proposal documents requiring (i) Tenderers (applicants/proposers), Consultants, Contractors, and Suppliers, and their Sub-contractors, Sub-consultants, Service providers, Suppliers, Agents personnel, permit the PPRA or any other appropriate authority appointed by Government of Kenya to inspect² all accounts, records and other documents relating to the procurement process, selection and/or contract execution, and to have them audited by auditors appointed by the PPRA or any other appropriate authority appointed by Government of Kenya; and
 - f) Pursuant to Section 62 of the above Act, requires Applicants/Tenderers to submit along with their Applications/Tenders/Proposals a “Self-Declaration Form” as included in the procurement document declaring that they and all parties involved in the procurement process and contract execution have not engaged/will not engage in any corrupt or fraudulent practices.
-

TENDERER INFORMATION FORM

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

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

Tender Name and Identification:.....*[insert identification*

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

for an alternative/ Page____of_____pages

1.Tenderer'sName <i>[insert Tenderer's legal name]</i>
2.In case of JV, legal name of each member: <i>[insert legal name of each member in JV]</i>
3.Tenderer's actual or intended country of registration: <i>[insert actual or intended country of registration]</i>
4.Tenderer's year of registration: <i>[insert Tenderer's year of registration]</i>
5.Tenderer's Address in country of registration: <i>[insert Tenderer's legal address in country of registration]</i>
6.Tenderer's Authorized Representative Information Name: <i>[insert Authorized Representative's name]</i> Address: <i>[insert Authorized Representative's Address]</i> Telephone/Fax numbers: <i>[insert Authorized Representative's telephone/fax numbers]</i> Email Address: <i>[insert Authorized Representative's email address]</i>
7. Attached are copies of original documents of <i>[check the box(es) of the attached original documents]</i> <input type="checkbox"/> For Kenyan Tenderers a current tax clearance certificate or tax exemption certificate issued by the the Kenya Revenue Authority in accordance with ITT 3.14. <input type="checkbox"/> Articles of Incorporation (or equivalent documents of constitution or association), and/or documents of registration of the legal entity named above, in accordance with ITT3.4. <input type="checkbox"/> In case of JV, letter of intent to form JV or JV agreement, in accordance with ITT 3.1. <input type="checkbox"/> In case of state-owned enterprise or institution, in accordance with ITT4.6 documents establishing: (i) Legal and financial autonomy (ii) Operation under commercial law (iii) Establishing that the tenderer is not under the supervision of the Procuring Entity 2. Included are the organizational chart, a list of Board of Directors, and the beneficial ownership.

TENDERER'S ELIGIBILITY- CONFIDENTIAL BUSINESS QUESTIONNAIRE FORM

a) Instruction to Tenderer

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

A. Tenderer's details

	ITEM	DESCRIPTION
1	Name of the Procuring Entity	Kenya Electricity Generating Company PLC
2	Name of the Tenderer	
3	Full Address and Contact Details of the Tenderer.	1. Country 2. City 3. Location 4. Building 5. Floor 6. Postal Address 7. Name and email of contact person.
4	Reference Number of the Tender	
5	Date and Time of Tender Opening	
6	Current Trade License No and Expiring date	
7	Maximum value of business which the Tenderer handles.	
8		

General and Specific Details

b) Sole Proprietor, provide the following details.

Name in full _____ Age _____

c) Partnership, provide the following details.

	Names of Partners	ality	Citizenship	% Shares owned
1				
3				

(d) Registered Company, provide the following details.

i) Private or public Company_____

ii) State the nominal and issued capital

of the Company:- Nominal Kenya Shillings

(Equivalent)..... Issued Kenya Shillings

(Equivalent).....

iii) Give details of Directors as follows.

	Names of Director	ality	Citizenship	% Shares owned
1				
2				
3				

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

i) Are there any person/persons in.....(Name of Procuring Entity)

who has an interest or relationship in this firm?

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

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

ii) Conflict of interest disclosure

	Type of Conflict	Disclosure YES OR NO	If YES provide details of the relationship with Tenderer
1	Tenderer is directly or indirectly controlled by or is under common control with another tenderer.		
2	Tenderer receives or has received any direct or indirect subsidy from another tenderer.		
3	Tenderer has the same legal representative as another tenderer		

4	Tender has a relationship with another tenderer directly or through common third parties, that it is in a position to influence the tender of another tenderer, or influence the decisions of the Procuring Entity regarding this tendering process.		
5	Any of the Tenderer's affiliates participated as a consultant in the preparation of the design or technical specifications of the works that are the subject of the tender.		
6	Tenderer would be providing goods, works, non-consulting services or consulting services during implementation of the contract specified in this Tender Document.		
7	Tenderer has a close business or family relationship with a professional staff of the Procuring Entity who are directly or indirectly involved in the preparation of the Tender document or specifications of the Contract, or the Tender evaluation process of such contract.		
8	Tenderer has a close business or family relationship with a professional staff of the Procuring Entity who would be involved in implementation or supervision of the such Contract.		
9	Has the conflict stemming from such relationship stated in item 7 and 8 above been resolved in a manner acceptable to the Procuring Entity throughout the tendering process and execution of the Contract.		

f) Certification

On behalf of the Tenderer, I certify that the information given above is correct.

Full Name _____

(Signature)

(Date)

TENDERER'S JV MEMBERS INFORMATION FORM

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

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

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

Page _____ of _____ pages

1. Tenderer's Name: <i>[insert Tenderer's legal name]</i>
2. Tenderer's JV Member's name: <i>[insert JV's Member legal name]</i>
3. Tenderer's JV Member's country of registration: <i>[insert JV's Member country of registration]</i>
4. Tenderer's JV Member's year of registration: <i>[insert JV's Member year of registration]</i>
5. Tenderer's JV Member's legal address in country of registration: <i>country of registration</i> <i>[insert JV's Member legal address in</i>
6. Tenderer's JV Member's authorized representative information Name: <i>[insert name of JV's Member authorized representative]</i> Address: <i>[insert address of JV's Member authorized representative]</i> Telephone/Fax numbers: <i>[insert telephone/fax numbers of JV's Member authorized representative]</i> Email Address: <i>[insert email address of JV's Member authorized representative]</i>
7. Attached are copies of original documents of <i>[check the box(es) of the attached original documents]</i> <input type="checkbox"/> Articles of Incorporation (or equivalent documents of constitution or association), and/or documents of the legal entity named above, in accordance with ITT 4.4. registration <input type="checkbox"/> In case of a state-owned enterprise or institution, documents establishing legal and financial autonomy, operation in accordance with commercial law, and that they are not under the supervision of the Procuring Entity, in accordance with ITT4.6.
8. Included are the organizational chart, a list of Board of Directors, and the beneficial ownership.

Price Schedule Forms

*[The tenderer shall fill in these Price Schedule Forms in accordance with the instructions indicated. The list of line items in column 1 of the **Price Schedules** shall coincide with the List of Goods and Related Services specified by the Procuring Entity in the Schedule of Requirements.]*

Price Schedule: Goods Manufactured Outside Kenya, to be Imported

PRICE SCHEDULE FOR GOODS

This must be itemized and each line item priced. Any lumped up bid shall be declared as none responsive

SCHEDULE 1

MAIN PRICE SCHEDULE					
No.	Description	QTY	UOM	Unit Price	Cost
A.	40MVA, 11/132kV, 50 Hz, ONAN/ONAF, YNd1, OLTC, 3-phase Step-up Generator Transformer	1	PC		
B.	Commissioning Equipment	1	PC		
C.	Sea Freight Charges to Mombasa Port	1	Lot		
	MAIN PRICE SCHEDULE, DAP Kamburu Power Station				
	CURRENCY OF TENDER				
	NOTE:- KENGEN TO UNDERTAKE CLEARANCE, PROCESS DUTY AND VAT FOR THE TRANSFORMER AND HANDOVER THE TO THE SUPPLIER FOR TRANSPORTATION TO KAMBURU POWER STATION				

NB: The tenderer is notified that services offered locally are subject to withholding taxes by Kenyan Government for services like training, supervisory etc.

Name of tenderer.....*[insert complete name of tenderer]*

Signature of tenderer..... *[signature of person signing the Tender]*

Date..... *[insert date]**

SCHEDULE 2**SPARES PRICE SCHEDULE**

No.	Description	QTY	UOM	Type/ Model	Unit Price	Cost
1.	Fan + Motor set, complete	1	PC			
2.	HV Phase 145 kV Bushing, complete with termination clamp	3	PC			
3.	52 kV HV Neutral Bushing, complete with termination clamp	2	PC			
4.	24kV, 3000A LV Bushing, complete with termination copper flexes	3	PC			
5.	Winding/Oil Temperature Thermometer, complete with Capillary and Bulb	2	PC			
6.	Bucchohz Relay	1	PC			
7.	Pressure Relief Device	1	PC			
8.	Conservator Rubber Bellow (Air Cell)	1	PC			
9.	Oil Valves (one of each type and size)		LOT			
10.	Transformer Oil (3,000litres)	3000	L			
	SPARES PRICE SCHEDULE, DAP Kamburu Power Station					
	CURRENCY OF TENDER					
	NOTE:- KENGEN TO UNDERTAKE CLEARANCE, PROCESS DUTY AND VAT FOR THE SPARES AND HANDOVER THE TO THE SUPPLIER FOR TRANSPORTATION TO KAMBURU POWER STATION					

NB: The tenderer is notified that services offered locally are subject to withholding taxes by Kenyan Government for services like training, supervisory etc.

Name of tenderer.....*[insert complete name of tenderer]*

Signature of tenderer..... *[signature of person signing the Tender]*

Date..... *[insert date]**

SCHEDULE 3

No.	Item	Total Cost
A.	Main Price Schedule (Schedule 1)	
B.	Spares Price Schedule (Schedule 2)	
C.	Design Review Meeting (three engineers)	
D.	Factory training and factory acceptance tests	
E.	Working Drawings, Operation & maintenance manuals as specified	
F.	Inland Transportation (Freight Charges to Delivery Point as per Section E: Technical Specifications, Clause 27)	
G.	Supervision of assembly, oil-filling installation & commissioning on site	
	Total Cost DAP, Kamburu Power Station (Transferred to Tender Form)	
Country of Origin		
Currency of Tender		
Delivery Period, DAP Kamburu Power Station		
Manufacturer		
Estimated duration for Assembly, Oil filling, Installation, Testing and Commissioning (days)		
Tenderer's Name		
Date		

NB: The tenderer is notified that services offered locally are subject to withholding taxes by Kenyan Government for services like training, supervisory etc.

Name of tenderer.....*[insert complete name of tenderer]*

Signature of tenderer..... *[signature of person signing the Tender]*

Date..... *[insert date]**

[For previously imported Goods, the quoted price shall be distinguishable from the original import value of these Goods declared to customs and shall include any rebate or mark-up of the local agent or representative and all local costs except import duties and taxes, which have been and/or have to be paid by the Procuring Entity. For clarity, the tenderers are asked to quote the price including import duties, and additionally to provide the import duties and the price net of import duties which is the difference of those values.]

FORM OF TENDER SECURITY - DEMAND BANK GUARANTEE

Beneficiary: _____

ITT No: _____

Date: _____

TENDER GUARANTEE No.: _____

Guarantor: _____

1. We have been informed that _____ (hereinafter called "the Applicant") has submitted or will submit to the Beneficiary its Tender (hereinafter called "the Tender") for the execution of _____ under Request for Tenders No. _____ ("the ITT").
2. Furthermore, we understand that, according to the Beneficiary's conditions, Tenders must be supported by a Tender guarantee.
3. At the request of the Applicant, we, as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of _____ (_____) upon receipt by us of the Beneficiary's complying demand, supported by the Beneficiary's statement, whether in the demand itself or a separate signed document accompanying or identifying the demand, stating that either the Applicant:
 - a) has withdrawn its Tender during the period of Tender validity set forth in the Applicant's Letter of Tender ("the Tender Validity Period"), or any extension thereto provided by the Applicant; or
 - b) having been notified of the acceptance of its Tender by the Beneficiary during the Tender Validity Period or any extension thereto provided by the Applicant, (i) has failed to execute the contract agreement, or (ii) has failed to furnish the Performance.
4. This guarantee will expire: (a) if the Applicant is the successful Tenderer, upon our receipt of copies of the contract agreement signed by the Applicant and the Performance Security and, or (b) if the Applicant is not the successful Tenderer, upon the earlier of (i) our receipt of a copy of the Beneficiary's notification to the Applicant of the results of the Tendering process; or (ii) twenty-eight days after the end of the Tender Validity Period.
5. Consequently, any demand for payment under this guarantee must be received by us at the office indicated above on or before that date.

[signature(s)]

FORM OF TENDER SECURITY (TENDER BOND)

[The Surety shall fill in this Tender Bond Form in accordance with the instructions indicated.]

BOND NO. _____

1. BY THIS BOND.....*[name of tenderer]* as Principal (hereinafter called “the Principal”), and..... *[name, legal title, and address of surety]*, **authorized to transact business in** *[name of country of Procuring Entity]*, as Surety (hereinafter called “the Surety”), are held and firmly bound unto..... *[name of Procuring Entity]* as Obligee (hereinafter called “the Procuring Entity”) in the sum of.....*[amount of Bond]* *[amount in words]*, for the payment of which sum, well and truly to be made, we, the said Principal and Surety, bind ourselves, our successors and assigns, jointly and severally, firmly by these presents.
2. WHEREAS the Principal has submitted or will submit a written Tender to the Procuring Entity dated the _____ day _____ of _____, 20_____, for the supply of _____ *[name of Contract]* (hereinafter called the “Tender”).
3. NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that if the Principal:
 - a) has withdrawn its Tender during the period of Tender validity set forth in the Principal's Letter of Tender (“the Tender Validity Period”), or any extension thereto provided by the Principal; or
 - b) having been notified of the acceptance of its Tender by the Procuring Entity during the Tender Validity Period or any extension thereto provided by the Principal; (i) failed to execute the Contract agreement; or
(ii) has failed to furnish the Performance Security, in accordance with the Instructions to tenderers (“ITT”) of the Procuring Entity's Tendering document.then the Surety undertakes to immediately pay to the Procuring Entity up to the above amount upon receipt of the Procuring Entity's first written demand, without the Procuring Entity having to substantiate its demand, provided that in its demand the Procuring Entity shall state that the demand arises from the occurrence of any of the above events, specifying which event(s) has occurred.
4. The Surety hereby agrees that its obligation will remain in full force and effect up to and including the date 30 days after the date of expiration of the Tender Validity Period set forth in the Principal's Letter of Tender or any extension thereto provided by the Principal.
5. IN TESTIMONY WHEREOF, the Principal and the Surety have caused these presents to be executed in their respective names this _____ day of _____ 20_____.

Principal:___ Corporate Seal (where appropriate)

Surety: _____

(Signature)

(Printed name and title)

(Signature)

(Printed name and title)

¹The amount of the Bond shall be denominated in the currency Kenya shillings or the equivalent amount in a freely convertible currency.

FORM OF TENDER-SECURING DECLARATION

[The Bidder shall complete this Form in accordance with the instructions indicated]

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

Tender No.:.....*[insert number of tendering process]*

To:.....*[insert complete name of*

Purchaser] I/We, the undersigned, declare that:

1. I/We understand that, according to your conditions, bids must be supported by a Tender-Securing Declaration.
2. I/We accept that I/we will automatically be suspended from being eligible for tendering in any contract with the Purchaser for the period of time of*[insert number of months or years]* starting on*[insert date]*, if we are in breach of our obligation(s) under the bid conditions, because we – (a) have withdrawn our tender during the period of tender validity specified by us in the Tendering Data Sheet; or (b) having been notified of the acceptance of our Bid by the Purchaser during the period of bid validity, (i) fail or refuse to execute the Contract, if required, or (ii) fail or refuse to furnish the Performance Security, in accordance with the instructions to tenders.
3. I/We understand that this Tender Securing Declaration shall expire if we are not the successful Tenderer(s), upon the earlier of:
 - a) our receipt of a copy of your notification of the name of the successful Tenderer; or
 - b) thirty days after the expiration of our Tender.
4. I/We understand that if I am/we are/in a Joint Venture, the Tender Securing Declaration must be in the name of the Joint Venture that submits the bid, and the Joint Venture has not been legally constituted at the time of bidding, the Tender Securing Declaration shall be in the names of all future partners as named in the letter of intent.

Signed:.....
...

Capacity / title (director or partner or sole proprietor, etc.)
.....

Name:
.....

Duly authorized to sign the bid for and on behalf of:*[insert complete name of Tenderer]*. Dated on day of *[Insert date of signing]*.

Seal or stamp.

MANUFACTURER'S AUTHORIZATION FORM

[The tenderer shall require the Manufacturer to fill in this Form in accordance with the instructions indicated. This letter of authorization should be on the letterhead of the Manufacturer and should be signed by a person with the proper authority to sign documents that are binding on the Manufacturer. The tenderer shall include it in its Tender, if so indicated in the TDS.]

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

ITT No:.....*[insert number of*

ITT process] Alternative No:.....*[insert identification No if*

this is a Tender for an alternative]

To:.....*[insert complete name of*

Procuring Entity] WHEREAS

We..... *[insert complete name of Manufacturer]*, who are official manufacturers of.....*[insert type of goods manufactured]*, having factories at *[insert full address of Manufacturer's factories]*, do hereby authorize *[insert complete name of tenderer]* to submit a Tender the purpose of which is to provide the following Goods, manufactured by us.....*[insert name and or brief description of the Goods]*, and to subsequently negotiate and sign the Contract.

We hereby extend our full guarantee and warranty in accordance with Clause 28 of the General Conditions of Contract, with respect to the Goods offered by the above firm.

Signed:.....*[insert signature(s) of authorized representative(s) of the Manufacturer]*

Name:.....*[insert complete name(s) of authorized representative(s) of the Manufacturer]*

Title:.....*[insert title]*

Dated on _____ day of _____, _____*[insert date of signing]*

PART 2: SUPPLY REQUIREMENTS

KAMBURU 40MVA*11/132KV, GENERATOR TRANSFORMER

FOREWORD

10 Overview

Kamburu Power station is located 170km north-east of Nairobi, and 70km off Nairobi-Garissa Road, 50km from Matuu towards along Kang'onde-Embu Road. The Hydropower Station has three generating Units rated 30.5MW. Each of the three generating units is connected to a GSU via a generator circuit breaker. Each of the three GSUs in turn connects to a 132kV busbar via a breaker. This tender seeks to replace one of the existing GSUs.

	Description of activities		
1	Designing 40MVA, 11kV/132kV, 50Hz, ONAN/ONAF , YNd1, OLTC, 3-phase Step-up Generator Transformer complete as per the specifications.		Activity
2	A	Design Review Meeting (three engineers)	Activity
	B	Factory training (For two KenGen Engineers for 5 days)	Activity
	C	Factory Acceptance Tests (7 days witnesses by KenGen two Engineers)	Activity
3	Supervision of Assembly, Oil filling and routine testing of the transformer on site.		Activity
4	Commissioning Test Equipment		Activity
5	Spares. (KenGen, at its own discretion may decide to buy all or part of the said spares. To be itemized as per price schedule)		Activity
6	Working Drawings, Operation & maintenance manuals as specified		Activity
7	Offloading at Sea & Inland road transportation to be witnessed by KenGen personnel.		Activity
8	Offloading on Site to be witnessed by KenGen personnel		Activity

This specification is based on IEC 60076 all parts, IEC 60137, IEC 60722, IEC 60214-1:2014 or their latest revisions and other related international standards.

11 SCOPE

The scope of this tender shall include:

- 11.7** Design, manufacture, assembly of 40MVA, 11kV/132kV, 50Hz, **ONAN/ONAF**, YNd1, OLTC, 3-phase Step-up Generator Transformer complete as per the specifications hereafter.
- 11.8** Design Review Meeting to be held at the manufacturer's factory to be attended by three engineers from KenGen.
- 11.9** Factory training for two KenGen Engineers for 5 days, held at the factory premises.
- 11.10** Factory Acceptance Tests to be held at the factory for 7 working days witnessed by the two KenGen Engineers (who will have undergone the factory training in 1.3 above).
- 11.11** Supervision of Assembly, Oil filling, testing and commissioning of the transformer on site.
- 11.12** Commissioning Test Equipment as per attached specifications
- 11.13** Supply of spares as per the list given in this tender. The prices of the spares shall be itemized and shall be part of the price schedule of this tender.

12 OPERATING CONDITIONS

127 Operating Conditions

The transformer shall be suitable for continuous outdoor operation in tropical latitudes with the following atmospheric conditions:

- a) Altitude: 1000M above sea level.
- b) Humidity: Heavy humidity of 70%.
- c) Ambient temperatures of 30°C average, (+40°C max. and +15°C min.).
- d) The transformer shall be designed and manufactured to withstand load rejection conditions as per IEC 60076.
- e) Existing fault level at Kamburu 132 kV bus-bar is approximately 2818 MVA. The Transformer design should be commensurate with this fault level.
- f) The GSU transformer connects to a common 132kV Bus with 2 (two) other GSU transformers each with an impedance voltage of 12.394% and 9.59% at nominal tap position respectively.
- g) Each of the three GSU transformers connects on the LV side to its respective generator via a generator breaker and on the HV-side to the 132kV busbar via a GSU breaker.

13 GENERAL

137 Transformer shall comply with the requirement of IEC60076, and any other related international specification. Any deviations from the specifications shall be mentioned as a specific item in your offer & be highlighted in the technical schedule.

138 The transformer shall be suitable for outdoor use, shall be of core type, oil immersed, oil natural air natural/oil natural air forced cooled (**ONAN/ONAF**) with appropriate radiators mounted on the sides of the transformer tank through isolating valves to enable removal of radiators without lowering the oil in the main tank

139 Oil preservation system: - The transformer's active parts shall be isolated from the external atmosphere, with an oil resistant long life rubber bellow provided in the conservator, separating the transformer's oil from the outer atmosphere. This facility will provide easy expansion and contraction of the transformer's insulating oil over the full operating load and temperature ranges.

1310 The transformer shall have two tank earthing terminals located on diagonally opposite corners as per the current transformer. (*as per existing transformer*)

1311 The transformer shall have suitably located air release valves or plugs where required as per IEC 60076-1. The supplier should be able to demonstrate how bleeding shall be accomplished for the radiators, Main Tank, bushing turrets, conservator and all other accessories during the oil filling process.

1312 The transformer shall have stainless steel rating plate and connection diagram as IEC 60076.

1313 The transformer shall have well labeled Core, Tank and frame earthing test links box, located on the transformer tank top cover and easily accessible for testing of the Insulation resistances.

1314 The bidder shall clearly indicate/disclose the exact location/country where the transformer shall be manufactured.

1315 The assembled transformer shall not exceed the following maximum dimensions

Details shall be provided during the site visit and also during the design drawing approvals.

Tank base Length	= 4280mm
Tank Base width	= 1600mm
Overall height of the assembled transformer	= 6400mm
Overall width including accessories	= 2400mm
Overall length of the assembled transformer	= 9900mm including the radiators.

The existing plinth based area dimensions of the transformer shall be shall not exceed the following dimensions

Length = 4800mm
Width = 1800mm

The jacking pads shall be such that, they shall be within the plinth area

The bidders shall collect the details of the transformer during the mandatory site visit.

- 1316** A sketch of the existing plinth on which the transformer shall be installed has been provided in the Appendix. Bidder should note that the plinth is not fully solid as per the sketch.

The bidders shall collect the details of the plinth during the mandatory site visit.

14 RATINGS

- 147** The rating of the transformer shall be **40MVA, 11/132Kv, 3Ph, OLTC, 50Hz, YNd1, ONAN/ONAF, oil immersed Generator Step-Up Transformer** connected to the 132kV overhead bus-bar system with a fault level rating of 2818 MVA.
- 148** The rating at the two cooling types shall be: **33.7MVA for ONAN and 40MVA for ONAF.**
- 149** The transformer shall be wound in Star/Delta configuration according to Vector reference YNd1, with Star connection on the HV winding brought out through the neutral bushing.
- 1410** The normal rating specified shall be the continuous rating at the maximum ambient temperature of +40°C.
- 1411** Temperature rise for the transformer shall be as follows: Top oil temperature rise shall be 50K, average winding temperature rise shall be 55K and hottest-spot winding temperature rise of 68K.

15 CONNECTIONS

157 LV Transformer connections:

- a) The LV bushings shall be outdoor, vertical orientation and connected to copper tubes.
- b) The bidder will supply suitably rated copper flexes and clamps for interconnection between the bushing terminal and the copper tubes (dimensions to be provided during design stage). The connection accessories between the LV bushing and the copper tubes is within the scope of supply)
- c) Non-metallic phase identification plates colored Red, Yellow, and Blue and labelled u, v, & w shall be done at suitable location on top of the transformer bushes or transformer body, so as to be visible from the ground level.

158 HV transformer connections

- a) On the 132kV side, the transformers will be connected directly from the HV bushings to a 132kV overhead system via 50mm² copper conductor.
- b) The 132kV bushing spindle shall have a clamp to adapt to the existing overhead conductors. The bushing spindle shall be 30mm in diameter.
- c) Non-metallic phase identification plates coloured Red, Yellow, and Blue and labeled U, V, W and N shall be done at suitable location on top of the transformer bushes, so as to be visible from the ground level.
- d) The HV bushing shall be supplied with clamps to adopt to the existing HT connections.

16 TAPPINGS AND ON LOAD TAPCHANGER

- 167** The OLTC to be supplied under this tender shall comply with the following standards or later revisions of the same:

- a) IEC 60214-1 2014: Performance requirements and test methods

b) IEC 60076-7:2005: Loading Guide for Oil-immersed Power Transformers

- 16.8** The Transformer shall be provided with an On-Load Tap Changer with 17 Taps on its High Voltage Secondary Winding for voltage variation, with tap 9 being the principal/nominal tap. The voltage variation steps shall be as shown below:

Tap Position	Tap Voltage (kV)
1	145.20
2	143.55
3	141.90
4	140.25
5	138.60
6	136.95
7	135.30
8	133.65
9 (nominal)	132.00
10	130.35
11	128.70
12	127.05
13	125.40
14	123.75
15	122.10
16	120.45
17	118.80

- 16.9** The tapping shall be carried out by a Maschinenfabrik Reinhausen (MR) On-Load Tap-Changer (OLTC). This OLTC shall have Vacuum as the medium for extinguishing arcs produced by the tap-switching operation. The OLTC shall have an automatic electrical operation as its norm, but also have provision for manual operation by a handle. The Technical Data sheet for the Tap changer shall be provided and shall be part of the evaluation criteria. **Only** OLTC manufactured by MR Germany, at its German factory is acceptable. Any other location or manufacturer shall lead to rejection of the offer.
- 16.10** The Tap Changer position indication should be clearly visible from the ground level.
- 16.11** The Manufacturer shall provide two ways of changing the Tap position:
- Automatic
 - Manual
- 16.12** These two ways shall be connected in parallel and activated by a Local/Remote Switch on the Panel. This Switch shall also be connected to the SCADA System
- 16.13** The Manufacturer shall provide a remote Tap Changer position indicator, indicating the selected tap position and its corresponding tap voltage. This indicator will be wired to the Control Room. The required interconnection cables and cabling accessories are in the scope of this tender.
- 16.14** The Manufacturer shall also provide a Binary Coded Decimal Signal (BCD) for the connection of the tap position information to the clients SCADA system. The bidder shall provide all required interconnection cables and cabling accessories for the connection of the transformer OLTC signals to the KenGen SCADA's cabinets at the control room.
- 16.15** The Manufacturer shall provide the following signals locally on the Tap Changer:
- Raise (both manual and electrical)
 - Lower (both manual and electrical)
 - Tap Changer Position
 - Local/Remote Selection
 - Control Supply Failure

16.16 The Manufacturer shall provide voltage-free contacts to wire the following signals for remote connection to SCADA:

- a. Raise Tap
- b. Lower Tap
- c. Local/Remote Selection
- d. Tap Change in Progress
- e. Tap Change Incomplete
- f. Tap Position
- g. Out of Step
- h. Extreme Tap
- i. Pressure Relief Device operated
- j. Motor Supply Failure

17 CORE AND FLUX DENSITY

The magnetic circuit shall be of low loss, cold rolled, grain oriented high-grade steel.

The flux density at any point of the magnetic circuit when the transformer is connected on the principal tapping and operating at nominal voltage and frequency shall not exceed 1.65 Tesla (16500 lines/sq. cm).

18 LOSSES, REGULATION AND IMPEDANCE

18.7 Losses of the transformer shall be stated and shall be subjected to tolerances in accordance with IEC 60076. The fixed losses shall be as low as is consistent with good design, reliability and economical use of materials.

18.8 The impedance voltage at extreme tapping and principal tapping shall be stated and shall be subject to tolerance in accordance with IEC 60076. The required % age impedances at nominal tap shall not exceed 12.96%. The fault level rating is 2818 MVA and the fault current rating for a three-phase short-circuit fault is 12,324 A.

18.9 Guaranteed No-load and Full-Load losses (capitalized losses) should be stated in the offer. The capitalization of the losses shall be computed based on the *Present Value Formula* for a period of 30 years life of the transformer measured from date of tender opening.

19 TRANSFORMER WINDING

19.7 The form of construction of the Windings shall be concentric as follows: the LV winding next to the Core limb; the HV Main Winding over the LV Winding; the HV Regulating Winding over the HV Main Winding.

19.8 The LV Winding shall have a single layer helical design. The HV Main Winding shall have a disc partly interleaved design. The HV Regulating Winding shall have a disc design.

19.9 The Winding material shall be high conductivity grade copper.

19.10 The Winding insulation shall be high grade Kraft paper.

19.11 The Windings shall be dried in an oven and compressed before assembly, and clamping bolts used to ensure it remains in compressed position, able to withstand sudden expansion caused by faults and short circuits.

19.12 Between the Core and the LV Winding, and between the Windings, and between the Coils of each Winding, suitable insulation and Winding Coil Ducts shall be provided.

19.13 The leads of the LV Winding, the HV Main Winding and the HV Regulating Winding shall be drawn out from the top of the Core-Winding Assembly with sufficient length for termination at the Bushing tips.

19.14 The Basic Insulation Level (BIL) of the HV Winding shall be 650 kV peak.

19.15 The BIL of the HVN Winding shall be 250 kV peak.

19.16 The BIL of the LV Winding shall be 125 kV peak.

20 BUSHINGS, CURRENT TRANSFORMERS AND TERMINATIONS

The transformer bushings for LV and HV windings shall be brought out separately.

These bushings shall comply with IEC 60137 edition 5 or later.

The Transformer phases shall be clearly marked and labeled using the nomenclature R, Y, B, N for high voltage and r, y, b for low voltage winding. Marking shall be of stainless steel plate and clearly visible from ground level.

207 High Voltage Bushings:

- a) The HV bushings shall be oil filled Oil Impregnated Paper (OIP) condenser type of bushings.
- b) The minimum rating of the OIP condenser bushing shall be 145kV, 800Amp, 650KV B.I.L, 275kV AC withstand. .
- c) The HV bushings shall be fitted with protective spark gaps.
- d) The HV bushing shall be of the outdoor type mounted on the transformer top cover in order to connect with overhead bus-bar via bare copper conductor.
- e) The HV bushing shall be provided with suitable test point for testing bushing capacitance and dissipation factor.
- f) The HV bushings shall be equipped with an oil level gauge of prismatic glass and visible level indicator.
- g) The bushing(s) shall have an oil venting plug on the turret.
- h) The HV bushing spindle must be silver plated copper for use with suitable copper clamps in the scope of supply for connection to the overhead system via bare copper conductor.
- i) The air clearances shall be so coordinated that the probability of a flashover from the terminal of one winding to the terminal of another winding is negligible. This shall be as per IEC 60071.1.
- j) The creepage distance of bushings must not be less than 25mm /kV based on the highest operating phase-to-phase voltage.
- k) The Terminal Clamps and accessories required to connect the HVPB to the overhead Circuit shall form part of the scope of this tender. Any further details of Terminal Clamps shall be provided at the design stage to the winning Bidder.

208 High Voltage Neutral bushing (HVN):

- a) The HV bushings shall be oil filled Oil Impregnated Paper (OIP) condenser type of bushings.
- b) The minimum rating of the OIP condenser bushing shall be 52KV, 800Amp, 250KV B.I.L and 95kV AC withstand.
- c) The neutral bushing shall be of the outdoor type mounted on the transformer top cover
- d) The neutral bushing shall be provided with suitable test point for testing bushing capacitance and Tan-Delta.
- e) The neutral bushings shall be equipped with an oil level gauge of prismatic glass.
- f) The bushing shall have an oil venting plug on its turret.
- g) The neutral bushing shall be provided with the appropriate bushing clamp and insulated copper bar for linking the neutral terminal to the existing earthing network. The necessary termination copper clamps shall form part of the bid.
- h) The earthing strip from the Neutral bushing to the ground level shall be in the scope of supply. The strip shall be anchored on the transformer body through insulators. The strip and its accessories shall be part of the scope of this tender
- i) The creepage distance of the bushing must not be less than 25mm/kV based on the highest operating phase-to-phase voltage.
- j) The connection clamp and connection accessories shall be in the scope of supply

209 Low Voltage Bushings:

- a) The LV bushing shall be solid, oil commutating outdoor type
- b) The minimum rating of the bushing shall be 24 kV rms, 3000 A, 125 kV BIL, 125 kV rated lightning impulse withstand voltage, and 50 kV rms rated short duration induced voltage rating.

- c) The LV bushings shall be mounted on the transformer tank top cover with a vertical orientation and shall be spaced at 800 mm center to center
- d) The bushing(s) shall have an oil venting plug
- e) The LV bushing terminal must be silver plated for use with copper connectors which shall be in the scope of supply.
- f) The air clearances shall be so coordinated that the probability of a flashover from the terminal of one winding to the terminal of another winding is negligible as per IEC 60076.
- g) The creepage distance of bushings must not be less than 25mm /kV based on the highest operating phase-to-phase voltage.

Test results for routine tests shall be provided before the FAT.

20.10 Neutral Current Transformers

The neutral current transformers shall be as specified below:

<i>CT</i>	<i>Burden (VA)</i>	<i>Class</i>	<i>Function</i>	<i>Ratio</i>	<i>Phase</i>	<i>Qty/Ph</i>
1	30	X	REF Protection	200/1	N	1
2	15	5P20	BUSBAR Protection	200/1	N	1

The neutral current transformers shall be oil filled, and of outdoor type.

20.11 Oil Filled Bushing Current Transformers for HV Bushings.

The HV bushings shall each be provided with the following oil filled current transformers for protection and metering purposes:

<i>CT</i>	<i>Burden (VA)</i>	<i>Class</i>	<i>Function</i>	<i>Ratio</i>	<i>Phase</i>	<i>Qty/Ph</i>
1	30	5P40	Busbar Protection	1000/1	R,Y,B	1
2	30	5P20	Over-current Protection	200/1	R,Y,B	1
3	30	Class X	Differential Protection	200/1	R,Y,B	1
4	15	0.2	Metering	200/1	R & B	1

20.12 Oil Filled Bushing Current Transformers for LV Bushings.

- a) The LV bushings shall be provided with the following oil filled current transformers;

<i>CT</i>	<i>Burden (VA)</i>	<i>Class</i>	<i>Function</i>	<i>Ratio</i>	<i>Phases</i>	<i>Qty/Ph</i>
1	15	1	WTI (Winding Temp. Indicator)	To match the W.T.I	R & B	1

- b) The current transformer providing winding temperature compensation shall be located at the discretion of the manufacturer. This shall be commensurate with the WTI installed.
- c) The CT secondary terminals should be appropriately marked, wired and both terminals should be terminated at the marshalling kiosk. The CT terminal blocks at the marshalling kiosk shall be of the sliding link type.

20.13 The CTs shall comply with the requirements of IEC 61869 standard.

20.14 The P1 and P2 terminals shall be clearly marked in the CTs turret and the corresponding CT cores marked on the Terminals. The same shall be clearly duplicated on the drawings

21 CLEARANCES

Minimum external air clearance shall be according to relevant and latest versions of IEC

60076-3 standard.

22 MARSHALLING KIOSK

- 227** The marshalling kiosk shall be of outdoor, weatherproof, vermin proof type to IP54 protection. It shall have a hinged, lockable door with a safety wind stop which shall be fitted with glass panel windows approximately 1500mm above ground level to facilitate reading of oil and winding temperature gauges without opening the door.
- 228** The marshalling kiosk shall be mounted on the transformer tank and should be fitted with vibration absorption pads (on the same side (as the existing transformer.)). The bottom side of the MK shall not be more than 500mm from the ground.
- 229** The marshalling kiosk shall have the following:-
- Two Mercury winding temperature indicators (U & W Phases) and one Mercury Oil Temperature indicator as specified in clause 17.4
 - Suitable starters for fan motors with thermal overload, single phase failure relay and normally closed electrical auxiliary contacts for fans failure alarm / trip circuits.
 - Selector switches with 'OFF', 'MANUAL', 'TEST' and 'AUTO' positions for fans control.
 - An internal LED lamp, supply at 240VAC, with a door limit switch for the control of the lamp.
 - A panel heater controlled by use of a thermostat
 - Ground connection copper bar
 - Auxiliary circuits' MCBs, links, terminal connectors.
 - Two separate removable glanding plates shall be provided for incoming and outgoing cables. Both plates for the outgoing and incoming cables shall be of the same size. The glanding plate for the outgoing cables shall be pre-perforated for ease of glanding at site. An equal number and size of cable glands shall be supplied.
 - The marshalling kiosk shall be designed for bottom entry of all cables into and out of the kiosk.
 - The Manufacturer shall wire all the transformer circuits from the transformer devices to the marshalling kiosk. This includes the bushing CTs, On Load Tap Changer indications etc.
 - The CTs TB shall be the sliding type providing shorting and open circuiting of the CTs
 - to the terminal block in the MK The manufacturer shall provide voltage free contacts for indication of the following:
 - for each fan and status – ON, OFF, TRIPPED
 - Radiator selections – OFF, TEST, AUTO, MANUAL

All these shall be wired.

- 2210** A remote indication cabinet shall be provided with the following specifications:

- Shall be approximately 1000 mm by 500 mm in size.
- Shall be mounted in the control room 500 m away.
- Shall house three digital temperature indicators for the two WTI and the OTI. Three digital temperature indicators shall be provided for remote temperature indications. They shall have an output for 4-20mA signal to clients' SCADA system. The digital read outs shall be big enough to be read comfortably 5m away.
- Shall house digital tap position indicator described in clause 6 of specification
- Shall have status and position indication lamps of light emitting diode type (LEDs) for the following: DC supply failure, AC supply failure, cooler ON/OFF and cooler in auto position indication. Lamp covers shall be of screwed type, unbreakable and moulded from heat resisting material and shall be translucent to diffuse light & coloured as specified during design stage
- Cables from the marshalling Kiosk to the remote indication cabinet shall be provided by the contractor. All cables shall be sheathed with armour. The conductors shall be 1.5mm² for digital signal, 0.75mm² twisted pairs for analogue signal and 4mm² for CT and VT outputs. Cables for analogue signal shall be shielded and armoured.

23 AUXILIARY SUPPLIES

- 237** The cooler control circuits shall be supplied with 240Volts, single phase, and 50Hz AC supply.
- 238** The Fan motors shall be supplied with 415 Volts, 3 Phase, 50Hz AC. supply. The manufacturer shall provide suitable terminating blocks at the marshalling kiosk for the connection of the power supply to the fan motors.
- 239** Other Protection & Control circuits shall be supplied with 110 Volts dc.
- 2310** The marshalling kiosk shall have a single phase 13A, 240VAC British Standard socket outlet and a three-phase (415VAC) industrial socket switched by a 32A rated miniature circuit breaker (MCB).

24 TANK AND TANK COVER

- 247** The tank shall be constructed of mild steel plates and shall be complete with all accessories. It shall be so designed as to allow the complete transformer when filled with oil to be lifted by crane or jacks, transported by road, rail or on water without overstraining any joints and without causing subsequent leakage of oil.
- 248** The base of the tank shall be so designed that it shall be possible to move the complete transformer unit in any direction without injury when using rollers, plates or rails.
- 249** All joints other than those which may have to be broken shall be welded.
- 2410** The main tank body shall be pressure tested so as to ascertain the soundness of all welded joints.
- 2411** The Tank top cover shall be of such a design and construction as to prevent accumulation of water and shall be bolted to the flange on the tank top to form a weatherproof joint.
- 2412** Tank top cover shall be separated from the active part of the core i.e. it can be removed without disturbing the winding core assembly which is completely separated from the top cover.
- 2413** Inspection openings shall be provided as necessary to give easy access to bushing terminations, tap-change switch, core earthing links, internal current transformers and any other components required to be accessed during the process of repair, maintenance and tests.
- 2414** 14.8 Tank cover and inspection covers shall be provided with suitable jacking and lifting arrangements. Inspection covers shall not weigh more than 25kg each.
- 2415** The tank cover shall be fitted with oil filled pockets for installation of the bulbs of the various temperature indicators. The pockets should be of such design so that the installation / removal of the bulb fittings should in no way interfere with the transformer's main tank oil. Protection shall be provided where necessary for each capillary tube. The pocket shall be fitted with a captive screwed cap to prevent ingress of water.
- 2416** The pocket shall be located in a position of maximum oil temperature at maximum continuous loading.
- 2417** Gaskets for weather and oil-tight joint faces shall be Nebar® Brown gasket and cork composition conforming to Specification Ref: ASTM F104-93 or equivalent international specification. The gasket shall have a minimum thickness of 5mm, except that where jointing faces are precision machined, thinner gaskets may be used.
- 2418** The tank side shall be provided with two inspection covers on the HV side of the tank (one each on either side of Red phase winding), placed midway along the height of the transformer to facilitate inspection of the windings when need arises. These inspection covers shall be accessible without removing the cooler banks. The covers shall be bolted for ease of opening them without the bolt or nut falling inside the tank. They shall be provided with Nebar ® Brown gasket to make it oil leak free.
- 2419** All bolts and nuts used on the main tank cover, the inspection covers, accessories and any temporary blanking plates shall have the international metric (M) standard sizes (mm).

25 CLEANING AND PAINTING

Cleaning and painting shall be in accordance with the following requirements:

25.7 Tank and Accessories

The exteriors shall be thoroughly cleaned by shot blasting or other approved methods and given a

priming coat and two under-coats of durable weather-resisting paint. The final coat shall be gloss KenGen Light Grey. RAL 7035

The interior of the transformer tank and other oil-filled chambers shall be cleaned of all scale and rust by shot blasting or other approved methods, and shall be given the required coatings of oil resistant paint.

The tank itself, its main cover, inspection covers, and any temporary blanking plates shall all be painted separately and then afterwards assembled together.

258 Paints

All paints used on interior and external surfaces shall be of Fire Retardant type.

26 COOLING SYSTEM

- 26.7** The transformer shall have two cooling types: Oil Natural Air Natural (**ONAN**) and Oil Natural Air Forced (**ONAF**) cooling. The systems shall consist of radiators and fans. Each radiator shall have corresponding fan(s).
- 26.8** The radiators may be positioned on either side of the transformer tank apart from the side with the medium voltage (11kV) terminals.
- 26.9** The transformer shall have radiator bank(s) with 130% of the required cooling capacity for cooling of the transformer. The radiators fitted on the transformer tank shall be 1.3 times the number required to ensure that the transformer is cooled under normal operating conditions when operated at continuous rated power and ambient conditions
- 26.10** During design approval, the bidder must demonstrate that the radiators installed are rated at 1.3 times the number required to dissipate the heat loss by the transformer. This shall be by means of calculations submitted to KenGen for approval during design approval process.
- 26.11** A loss of fan due to a trip or loss of supply shall start the spare radiator bank(s) to ensure continuous cooling of the transformer.
- 26.12** Radiators shall have appropriate oil isolating valves to allow for easy assembly / dis-assembly of the exchanger without having to lower the oil level in the main tank. These valves shall be airtight capable of allowing vacuuming of the main tank without necessarily dismantling the cooling banks. An oil drain plug shall be provided to enable draining of the oil.
- 26.13** The following shall be provided for in each radiator
- a) Vent boss and plug
 - b) Drain boss tap and plug.
 - c) Detachable radiator tie bar
- 26.14** Motor driven fans fitted with wire mesh guards, shall be mounted / coupled in such a manner as to allow easy assembly / dis-assembly without interference to the radiator assembly or draining the oil on both main tank and radiator.
- 26.15** All motors shall be totally enclosed and rated for continuous operation. They shall be weather proof, outdoor type fitted with terminal boxes and glands to accommodate multicore cables. The direction of suction and discharge of the oil shall be horizontal.
- 26.16** Lifting lugs for the cooling system components appropriately situated shall be provided. Radiators shall be so designed to prevent accumulation of rainwater.
- 26.17** The radiators will be such as not to interfere with the horizontal take off the power copper bars/tubes and conductors on both the LV and HV side of the transformer.
- 26.18** The Manufacturer shall provide the following signals from the Cooling System to the SCADA System via the Marshalling Kiosk:
- a) Manual/Auto Fan Selection
 - b) Fan Group 1 Running
 - c) Fan Group 2 Running
 - d) Fan Group 1 Failure (Alarm)
 - e) Fan Group 2 Failure (Alarm)
 - f) Fan Supply Failure (Alarm)
 - g) Control Supply Failure (Alarm)

26.19 The rating (kW, Power factor, Current) for each cooling fans shall be stated and the total number of fans per cooling bank. (Duty and standby radiators). ***This shall be used in computing the capitalization of losses of the Transformer and its total Cost of ownership over its entire 30 years life based on the Present Value Formula.***

27 FITTINGS

27.7 Conservator

- a) The conservator should be designed with a long life oil resistant rubber bellow air cell, which will provide a separation between the transformer oil and the outside atmosphere. It should be capable of allowing free expansion and contraction of the Transformer's oil mass, over the full temperature operating range of the transformer. Appropriate air release valves shall be supplied.
- b) The manufacturer shall provide an elaborate oil filling procedure for the transformer in regard to the bellow described above. The procedure shall be on a plate fixed on the transformer tank.
- c) The conservator shall be in such a position as not to obstruct the electrical connections to the transformer.
- d) The conservator shall be designed and manufactured such that it shall NOT be installed on the same side with the radiator banks.
- e) An Oil level gauge shall be provided at one end of the conservator and its level markings shall be visible from the ground level. The oil level gauge shall have a Low and a High Oil Level contact that shall be wired to the marshalling kiosk (30°C mark shall be marked on the gauge).
- f) The conservator shall be provided with a prismatic sight glass for oil level monitoring with its level markings visible from the ground level.
- g) The conservator shall also be provided with;
 - a) Lifting lugs for lifting the conservator when empty.
 - b) Drain and filter valves lockable in open or closed position
 - c) Inspection covers to permit inspection of the bellow.
 - d) Dehydrating breather
- h) The valves isolating the conservator from the main transformer tank shall be able to withstand full vacuum to eliminate the need to drain the oil from the conservator when carrying out vacuuming of the transformer.
- i) The conservator shall be equipped with oil level indicator with a low-level contact. This shall be suitable for 110Vdc. These contacts shall be wired to the Marshalling kiosk terminal block

27.8 Gas and Oil Actuated Relay

- a) Transformer shall be provided with a gas and oil actuated relay of double float type (Buchholz relay) with alarm and tripping contacts to detect slow accumulation of gas or sudden changes of oil pressure. This shall be complete with lockable ball shut-off valves in open and closed position and flange couplings to facilitate easy removal without lowering oil level in the main tank or conservator.
- b) Bleed valve for gas venting and test valve, shall be accessible from ground level through a copper pipe with an appropriate end valve.
- c) All contacts to be suitably wired and terminated at the marshalling kiosk.

27.9 Pressure Relief Device

- a) A pressure relief device shall be provided and mounted at a suitable position where the trip actuating flag will be clearly visible from the ground.
- b) The pressure relief device should be spring-actuated type operating instantly once a pressure of 0.552+ 5% bar is sensed and shroud to direct the oil away from the tank.

- c) The device shall be self-latching once the over pressures condition ceases.
- d) However, it should be provided with a mechanical indicator and trip contacts wired to the marshalling kiosk, which is not self-resetting.
- e) The device should also be capable of withstanding full vacuum, which may be applied to the transformer tank during maintenance without affecting its operating characteristics.
- f) A Pressure–vacuum gauge for sealed tank design shall be provided.
- g) The contact for the operation shall be wired and terminated in the TB in the marshalling kiosk.

27.10 Oil & Winding Temperature Indicators

- a) The transformer shall be provided with three dial type temperature indicators, one for oil and two for winding temperatures. The winding temperature indicators shall have associated current transformers.
- b) The dial of the temperature indicators shall have a scale ranging from 0°C to 160°C, preferably uniformly divided.
- c) The temperature indicators shall have a maximum temperature pointer drag, hand type resetting knob and four separately adjustable mercury contacts for alarm, trip and operation of cooler control circuits as may be required.
- d) The contacts shall be suitable for high capacity snap-action type with ratings up to 10 Ampere for 125/250 volts. The contacts shall have the following duties and characteristics:
 - a) **Alarm**
Adjustable setting: 70°C to 140°C
Fixed differential: Not more than 10°C
 - b) **Trip**
Adjustable setting: 70°C to 140°C
Fixed differential: Not more than 10°C
 - c) **Spare Contacts**
All contacts shall be adjustable to a scale and shall be accessible on removal of the cover.
- e) The manufacturer shall provide as spares two mercury thermometers that can be used in either of the positions and as specified above.
- f) Isolating and test links shall be provided in a control cubicle to allow for measuring winding temperature and testing the heater coil.
- g) The calibration of indicator shall be related to the winding having the maximum temperature rise (LV winding).
- h) If the value on the winding temperature indicator varies by more than 30°C from the values derived during the temperature rise tests, then adjustment shall be made to the temperature indicator to achieve these limits.
- i) The manufacturer shall provide resistance temperature detectors (RTD) as follows
 - a) Two (2) RTDs for transformer winding indication of LV Red and Blue phases.
 - b) One (1) RTD for Oil temperature indication
- j) The manufacturer shall provide remote temperature indicators for the RTD temperatures described above.
- k) The manufacturer shall also provide an analogue signal of 4 -20mA for indication of each RTD temperatures (as mentioned above) in the SCADA. These shall be wired to the TB in the MK.
- l) The manufacturer will provide the suitable cable for interconnection of the Marshalling kiosk and Remote indicator located at the control room, 100metres away.

28 TANK VALVES AND SAMPLING PROVISION

The following shall be provided on the transformer tank:

- 28.7** Top and bottom valves fitted with blank flanges located on opposite sides of the transformer tank,

for oil filtration purposes. The top valve shall have a pipe extension to a height reachable from the ground level.

- 288 Additional bottom valve suitably located at the lowest point of the transformer tank to enable draining of oil from the transformer tank.
- 289 All valves shall close with a clockwise rotation. All valves shall be provided with clearly visible “open” and “closed” position indicators.
- 2810 All valves shall be capable of being padlocked in the open or closed positions, and shall incorporate an 8mm clearance hole for padlock. Locking pin shall be of anti- rattle design so as not to add to noise emissions.
- 2811 All connection flanges that will have no connections during normal operation of the transformer shall have blanking plates that can withstand full vacuum and shall be appropriately treated against rusting.
- 2812 Oil sampling provision shall be appropriately located near the ground level to obtain sample of transformer oil from the top and bottom of the tank.
- 2813 Ladder with barrier for easy access to tank top cover and should have provision for padlocking to prevent access by unauthorized person complete with handhold.
- 2814 Additionally, there shall be a provision to access the top of the conservator from the top of the tank cover. This may be achieved by use of ladder or provision of stepping rungs.
- 2815 All electrically connected accessories must be fully cabled and wired to the marshalling kiosk terminal box.

29 OIL

- 297 The transformer and all associated oil immersed equipment shall be complete with non-inhibited mineral oil complying with the requirement of IEC 60296.
- 298 Oil in adequate quantities for filling of the transformer tank and accessories after assembly, will be supplied one or two steel tanks with a capacity to fill the tank and a spare oil of 3000 litres shall be provided with the transformer.

30 PACKING AND SHIPMENT

- 307 Transportation- the transformer main tank, core, windings and any attached accessories shall be shipped filled with dry nitrogen gas from a suitably sized cylinder maintained at a positive pressure. The moisture content of the Nitrogen gas shall not exceed 5ppm and a pressure monitoring gauge shall be installed. The above shall be the property of the client upon arrival to the site.
- 308 All other detached accessories that normally function under oil, shall be appropriately sealed to protect them against moisture or attack by weather.
- 309 All items shall be so packed as to protect them against weather and mechanical damage during the shipment.
- 3010 The manufacturer shall supply and install disturbance / shock recorder to record any impact on the transformer during shipment. The shock absorber shall be installed at the factory and activated. The procedure for impact data retrieval shall be sent in soft to KenGen, 2 weeks prior to shipment of the transformer. The impact recorder shall remain the property of KenGen

NOTE: ~ The transformer tank and all oil-bearing accessories including bushings, radiators, pipes, valves, pressure relief device etc. assembled there on shall be capable of withstanding full vacuum. This should be so stated on the rating plate. **This will form part of the evaluation criteria.**

In this connection, suitable provision should be made at the top most point of the tank to enable easy connection of the vacuuming apparatus at the same time being able to isolate the conservator and its rubber bellow from the vacuuming circuit.

31 REVIEW AND APPROVAL OF TRANSFORMER DESIGN BEFORE MANUFACTURE

31.7 Drawings Approvals

- a) During the design stage, the contractor shall send drawings to the client for approval and

comments. A copy of each drawing and item of data will be returned to the Contractor marked “Approved”, or “Approved as noted”, or “Not Approved”.

- b) Drawings submitted by the contractor for approval will be checked / reviewed by the employer and comments, if any, on the same will be conveyed to the contractor. It is the responsibility of the contractor to incorporate correctly all the comments conveyed by the Employer on the Contractor’s drawings. If the Contractor is unable to incorporate certain comments in his drawings, he/she shall clearly state in his forwarding letter such non-compliance along with valid reasons and justification.
- c) Comment of “not approved” would imply the drawing has to be re-done as per comments given; meaning the client is not in agreement with the content, idea and implications of the drawing on the overall design and operation of the system. Comment of “approved as noted” shall imply the client is in agreement with the idea or implications of the drawing but requires some changes to be implemented before approval.
- d) Drawings and data requiring revision shall be promptly dealt with and resubmitted as aforementioned. Thereafter, changes shall NOT be made in the Contractor’s drawing without written permission of the Client Engineer. The above procedure shall be repeated for all authorized changes.
- e) It is to be understood, however, that approval of the drawings shall not relieve the Contractor of any responsibility in connection with the work.
- f) All drawing submitted for approval or sent to the Client for any other reason may be sent by courier or e-mail
- g) Any work performed or material ordered by the contractor prior to receipt of drawings stamped ‘Approved’ by the employer shall be at the risk of the contractor. After print of any drawing has been returned ‘Approved’, the contractor may release the parts covered by the drawing, for production / construction.
- h) All drawings and data supplied by the Contractor subsequent to the date of contract, which cover changes in the work, extra work, or which supplement existing drawings and data shall, upon approval by the Client Engineer, form part of the contract documents.
- i) If, at any time before the completion of the work, changes are made necessitating revision of approved drawings, the contractor shall make such revisions and proceed in the same routine as for the original approval.
- j) To expedite the delivery and return of the required drawings, scanned drawings shall be used and sent to the following KenGen E-mail addresses–
jochar@kengen.co.ke
c.c. bpogeto@kengen.co.ke
nngumi@kengen.co.ke
Or any other email supplied by the client.
- k) The work shall be in accordance with the approved drawings and data and shall not be commenced until such approval has been obtained. Subsequent changes contemplated by the Contractor shall be indicated on revised drawings and data resubmitted for approval. The Contractor shall make any changes in the design which are considered necessary to make the work conform to the provisions and intent of the specification without additional cost to KenGen.
- l) Approval of the Contractor’s drawings and data shall in no way construe or imply relief of the Contractor from responsibility for any error or omission therein or from any obligation under the Contract.

22.2 Technical Documentation

22.2.1 Technical documentation shall consist of but not limited to:-Introduction/overview of project components, overall operating philosophy, operating conditions, detailed description of the equipment, emergency procedures, description of equipment arrangement, design calculations, maintenance and test instructions/procedures, installation instructions, operation instructions, manufacturer data sheets & catalogues, software manuals, detailed instructions for programming settings and configuration, wiring drawings, cable schedules, terminal diagrams, device lists,

schematic drawings and mechanical & structural assembly drawings.

22.2.2 Four sets of manuals shall be provided, the manuals shall contain:-

- (a) Equipment overall design and specific detailed features of design including: descriptive drawings where practicable, schematic diagrams, block diagrams, list of internal materials, connection and terminal list, equipment and components dimensional drawing and control diagram.
- (b) Complete operating instructions: included shall be precautions and critical points to be observed, including suggested form to be used in taking periodic readings to maintain an operations record. There shall be a tabulation of possible operating difficulties with the probable causes listed and remedial action to be undertaken for each one.
- (c) Design Data for the equipment specifying power, kilowatts, voltage, amperage, temperature, flow etc. characteristic curves for the equipment. Detailed description of the equipment: individual components, relevant clearances, tolerances, allowable temperatures, settings etc.
- (d) Manufacturer catalogues and technical data sheets for all components and devices.
- (f) Complete instructions for ordering replacement parts in a manner that would prevent errors or misunderstanding. Recommended forms for tabulating replacement part information and instructions for returning materials to the factory shall be included.
- (g) Maintenance instructions manuals split into:
 - (i) Manuals for preventive maintenance indicating periodic inspections, tests, cleaning, lubrication and other routine maintenance. A clear concise document with CHECKLISTS detailing tests and inspections to be done after duration of time e.g. monthly, annual etc.
 - (ii) Repair manuals describing fault location, dismantling, re-assembly etc.
- (h) Detailed instructions for programming settings and configuration of all software configurable devices. Instructions for downloading, uploading and backing up settings & configurations,

22.2.3 Factory test report (FAT) and commissioning report (SAT) shall be included the final documentation. This shall include but not limited to: - plotted characteristic curves during commissioning, set points for various parameters, instrumentation set points, alarm and trip set points, test results e.g. CT excitation curves, PRD operation pressure, winding and oil temperature alarm and trip temperatures etc

22.2.4 The documentation shall leave the operators and maintenance personnel in position to operate the plant in a safe and optimal way and to perform repairs, upgrades and rehabilitation usual to be done by such personnel.

22.2.5 The Project Engineer shall approve all technical documents before final submission.

22.2.6 As Built Drawings, Commissioning test report, manuals and other technical documentation to be submitted 2 months after commissioning)

22.2.7 All technical documentation shall be in English Language ONLY

22.3 Final Documentation

22.3.1 After all items of the work have been manufactured, erected and commissioned; complete sets of prints and softcopies of the technical documentation for all new systems and interfaced plant systems shall be furnished as indicated below.

- (a) Soft copies of ALL technical documentation as defined in section 21.2 well organized using document management application program linking all documents in the project via hyperlinks etc. The document management application program shall
 - (i) Run on any PC without installation or requiring a license.
 - (ii) Enable searching of content easily
 - (iii) Organize all technical documentation in chapters or volumes for easy viewing of the contents
 - (iv) Document management application based on HTML that can easily be read by web browser is preferred.
- (b) Soft copies of ALL as built drawings in AutoCAD format and any other CAD software format if used or agreed upon with project engineer
- (d) Four Complete sets of bound prints for ALL documentation and ALL as built drawings and logic diagrams in A4
- (e) Four Complete sets of bound prints for all as built SCHEMATIC drawings in A3 (ONLY schematics for electrical documentation will be provided in A3, this does not include terminal diagrams or any other electrical related documents)
- (f) Four Complete sets of bound prints for all as built structural and mechanical drawings in A3 and A2/A1.
- (g) All existing clients' drawings affected by the new system reviewed and updated by the contractor

- in two sets one A3 another A4 size sheets
- (h) Soft copies of ALL Logic diagrams in original software format and the software with a license, used to create the logic diagrams/programs

32 ENGINEERING SERVICES

327 Design Review Meeting

- a) There shall be a design review meeting to be held at the transformer factory premises. The meeting will be held after the manufacturer has completed and submitted draft design of the transformer to KenGen for review. The review meeting shall be held before any key components are purchased for the manufacture of the transformer. The review meeting shall be guided by Cigre document 529 of April 2013 issued by Working group A2.36.
- b) During the design review meeting, three KenGen engineers shall be involved for a period of 5 days. The tenderer shall meet the costs of travel of KenGen engineers from their hotel to meeting venue. KenGen shall cater for all the other costs incurred by the engineers during this visit.
- c) The meeting shall include review of the factory capacity and capability, design calculations for winding impedances, winding construction, core and frame assembly, protection and control wiring, quality control checks of the manufacturer, tank construction and placement of accessories, cooling capabilities, temperature limits, tap changer specifications, etc. The meeting will also review the factory tests and their procedures to ensure that they meet international standards.
- d) The meeting will also discuss transportation of the transformer, site works including testing and commissioning.

328 Factory Training

The Contractor shall, before conducting the Factory Acceptance Tests on the Transformer, engage three Client's Representatives in a 5 days training that covers, among other things:

- a) transformer design (electrical)– design of core, design of winding, types of winding (helical, spiral, disc, cross-over) load losses, temperature rise and cooling system, determination of technical data
- b) transformer design (mechanical) – laminations, core & active part, winding, transformer tank, conservator and accessories
- c) manufacturing processes and factory tour – core assembly, winding of LV and HV windings, quality control checks during manufacturing
- d) Transformer testing in theory and in practice : Heat Run, Lightning Impulse, SFRA, Capacitance and Dissipation Factor, Winding Resistance Measurement, Dissolved Gas Analysis
- e) Transformer maintenance and repair, diagnostic testing, condition monitoring

329 Factory Acceptance Testing

- a) The complete transformer assembled to service condition shall be capable of withstanding impulse and power frequency voltages in full compliance with the requirements of IEC 60076-3, including latest amendments.
- b) The Transformer must be free of “Corona Discharge” at operating voltage level.
- c) The following tests shall be carried out on the fully-assembled Transformer at the factory of manufacture as per IEC 60076 standard before shipment and shall be witnessed

by the Employer. These tests shall collectively comprise the Factory Acceptance Test (FAT) of the Transformer. The sequence of the tests shall be as recommended in IEC 60076-1:2011

- Routine Tests
 - a. Appearance check and colour check, phase markers, CTs terminals identifications.
 - b. Physical dimensions checks.
 - c. Measurement of winding resistance (both LV and HV winding at all taps)
 - d. Measurement of voltage ratio and check phase displacement (vector group) test
 - e. Measurement of short circuit impedance and load loss
 - f. Measurement of no-load loss and current at 90%, 100% and 110% of rated voltage
 - g. Dielectric Routine tests
 - i. Full wave lighting impulse test (LI)
 - ii. Applied voltage test (AV)
 - iii. Induced voltage withstand test with PD measurement (IVPD)
 - iv. Auxiliary wiring insulation test (AuxW)
 - h. Tests on on-load tap changers
 - i. Leak testing with pressure for liquid-immersed transformers
 - j. Check of ratio and polarity of built-in current transformers
 - k. Check of core and frame insulation for liquid immersed transformers with core or frame insulation
 - l. Measurement of dissolved gases in dielectric liquid from each separate oil compartment except diverter switch compartment
- Additional Routine tests
 - m. Determination of capacitance windings-to-earth and between windings
 - n. Measurement of d.c. insulation resistance between each winding to earth and between windings
- Type Tests
 - o. Temperature rise (heat run) test
 - p. Measurement of sound pressure level
 - q. Measurement of power taken by fans
- Special Tests
 - r. Winding hot-spot temperature-rise measurements
 - s. Vacuum deflection test on liquid immersed transformers
 - t. Pressure deflection test on liquid immersed transformers

- u. Measurement of frequency response (SFRA) HV with LV open, HV with LV shorted and LV and other measurements as per IEC 60076-18
 - v. Lightning impulse test (LIN)
 - w. Lightning impulse test (chopped wave) test (LIC)
 - x. Line terminal AC Withstand voltage test (LTAC)
 - y. Measurement of power taken by fans
 - z. Functional test of devices (fans, Buccholz relay, pressure relief device, conservator oil level, etc.)
 - aa. Capacitance test and dissipation factor (tan delta) test of bushings
 - bb. Insulation resistance tests of the transformer's windings, core, tank and frame
 - cc. Oil tests: dielectric strength, tan delta, moisture content, acidity, PCB content, DGA. The oil tests shall be done four times: at the start of the fat, after high voltage tests, before and after heat run test.
- d) The contractor shall furnish the client with the FAT program not less than 1 (one) month before the scheduled FAT. This program shall be approved by the client before any tests are carried out on the transformer. The program shall contain:
- a. Test procedures for each test
 - b. Test sheets where results and comments shall be logged
 - c. Calibration certificates for the test equipment and devices that shall be used to conduct the tests
- e) The routine and type test results for the following accessories shall be sent to the client together with the FAT program mentioned above:
- Current transformers
 - Transformer Bushings
 - Transformer tank pressure test
 - fans, Buccholz relay, pressure relief device, conservator oil level
- f) Three KenGen Engineers shall witness and carry out the FAT. KenGen shall cater for their accommodation and return air tickets to the nearest airport in the country of the Manufacturer. All other costs incurred during the witnessing and carrying out of the tests shall be covered by the Bidder, including meals, transport to and from the nearest airport, and local transport between factory and the hotel.
- g) Visa application cost for the three Clients Engineers attending the FAT shall be at the clients cost.
- h) The Bidder shall, in the FAT program furnished beforehand, state the number of days required to carry out all the tests in the factory. A minimum of **seven (7)** working days is anticipated to carry out the tests and compile the test report and sign off FAT meeting minutes. Tests shall be carried out between 8:00 a.m. and 5:00 p.m., except for tests like Temperature Rise and vacuum withstand which must go on till completion without interruption. The tests shall be arranged such that there shall be ample time (1 day) to go through and discuss the test results, compile the FAT meeting minutes and sign off by both clients and bidder's Engineers.
- i) Test reports and certificates shall be issued after completion of factory tests but prior to departure from the factory by the KenGen Engineers.
- j) The duly signed summary FAT report shall form part of the documents to be submitted to

the bank for the release of payment via the Letter of Credit.

33 MANUFACTURING AND SHIPMENT

337 Quality Assurance Plan:

- a) The bidder shall invariably furnish along with his offer the quality assurance plan adopted by him/his sub-supplies in the process of manufacturing all major equipment/component.
- b) Precaution taken for ensuring usage of quality raw materials and sub-components shall be stated in the quality assurance plan.
- c) The bidder should specifically express their consent to accept additions, revisions to their quality assurance plan to meet the employer's requirements if needed. The final quality assurance plan to be adopted, with mutual consent, shall be decided after discussion with successful bidder.

338 Places of Manufacture and Sub-Contractors

- a) All equipment offered should be the product of recognized and experienced manufacturers who have been manufacturing specified equipment for the last twenty years. Equipment shall be of basic design and size similar to such that has been in successful continuous operation for at least three years preferably under similar climatic conditions. Proven plant reliability and high availability are of prime importance and the attention of the tenderer is drawn to these particular requirements.
- b) The manufacturer's identity and places of manufacture, testing and inspection before shipment for the various portions of the Contract Works shall be specified in the Technical Schedules and shall not be departed from without the agreement of the Project Engineer
- c) As soon as practicable after entering into the Contract, the Contractor shall, having obtained the Project Manager's consent in accordance with the Conditions of Contract, enter into the Sub- contracts he considers necessary for the satisfactory completion of the Contract Works.
- d) All Sub-contractors and Sub-suppliers of components and materials shall be subject to the approval of the Project Engineer. Information shall be given on each Suborder sufficient to identify the material or equipment to which the sub-order relates, stating that the material is subject to inspection by the Project Manager before dispatch.
- e) If the Employer at any stage in the design and production period finds out that the sub-contractor do not fulfil the requirements in the specifications and it is obvious that the required quality cannot be achieved by corrective measure he can request the subcontract to be suspended and the works to be produced elsewhere without extra cost for the Employer.

34 QUALITY ASSURANCE

The manufacturer processes should adhere to ISO 9001:2008 or higher, and all other relevant and related international standards.

35 TRANSPORTATION AND IMPACT RECORDING

The manufacturer shall install a vibration / shock recorder onto the transformer tank with a recording chart. In the three planes, X, Y & Z to last for the duration of transportation from the manufacturers site to final destination. The time will take care of duration of one month after the docking of the ship to Mombasa port to allow for clearances and transportation, by others to the final destination. The recorder will be analyzed and will become property of the bidder.

36 DOCUMENTS

The following documents shall be provided with your offer:

- i Copy of ISO certification
- ii References- These are the previous similar jobs carried out in the last 5 years. Rating of transformers and the tender amount. These previous experience shall be used as an evaluation criteria.

- iii Brochures etc. illustrating your transformer manufacturing process.
- iv. Test report from an independent accreditation body for a similar sized transformer.
- v. Copies of Type test reports & certificates based on IEC standards for each type of bushings, CT's, Transformer Gas (Bucholz) Relay, Pressure Relief Device and On Load Tap Changer proposed to be used by the bidder to manufacture the transformer. Type test reports & certificates shall be certified by the National Standards and Testing Authority (NSTA) of the country of origin or by a third party Reputable Testing Authority. Where a body other than NSTA is used to certify the type-test reports, a copy of the certificate of accreditation shall be attached. Current contact information of the testing and certification authority shall be provided. Tenderers should note that this requirement is MANDATORY
- vi. Technical data sheets and catalogues of for major components proposed to be used by the bidder to manufacture the transformer. These include: HVN Bushing, HV Bushing, LV Bushing, Earthing Bushings, Current Transformers, Oil Conservator, Air Breather, Radiators, Radiator Fans, Gas Sampling Device, Moisture Acceptor, Rubber Capsule (Air Bag), Transformer Gas (Bucholz) Relay, Pressure Relief Device, Off Circuit Tap Changer, Transformer Oil Level Gauge, Transformer Winding Thermometer, Oil Temperature Thermometer, Digital Temperature Indicator, Miniature Circuit Breakers and Contactors
- v Mechanical and control diagrams of the transformer with list of names of the components and showing dimensional specifications of the transformer

The following documents shall be delivered by courier in **three hard and soft copies** to KenGen, at time of ***shipping***:

- a) Assembly, wiring & schematic drawings, (as built) Certified Test reports
- b) Technical Data sheets of all the components installed onto the transformer
- c) Detailed Installation / maintenance manuals for the transformer and tap changer.

37 INLAND TRANSPORTATION IN KENYA

The bidder shall transport the transformer and its accessories from the port of Mombasa to Kamburu Power Station after clearance of the cargo with the port's authority. The transporter must coordinate the arrival of the ship and availability of the modular low loader at the port for direct loading of the transformer. The transformer shall be loaded on a modular low-loader truck, properly secured on the low-loader trailer and delivered to the storage plinth at Kamburu Power Station. The bidder shall secure all the required highway clearances, permits and licenses from the relevant National and County Authorities (or bodies or agencies), for the transportation of the transformer from the port of Mombasa to Kamburu Power Station.

At Kamburu Power Station, the transformer will be parked on the storage plinth near the main gate to the station. At the time of installation, bidder shall move the transformer from the storage plinth to the service plinth and move the decommissioned transformer from the service plinth to the storage plinth. The two transformers shall be moved while fully assembled and with oil and as such, the transportation should consider the applicable weights. The total mass of the old transformer is 69,750 kg. The mass of the oil is 19,040 kg and has a volume of 22,000 litres. The oil level of the old transformer shall be lowered to just below the top cover of the main tank, and it will be dismantled by KenGen before its movement. The bidder or his agent, is expected to use electrically operated Hydraulic Power Pack lifting and push/pull jacks, staging beams, staging tools, rails and/or purpose build roller skit, Hiab, forklift, sliding rails, slings trucks. The following tools shall be REJECTED by KenGen, all costs to the bidder:

Use of manual jacks or cranes at site to lift the transformer, use of winches (locally known as "tougher").

As the outage may not be granted immediately upon arrival of the transformer at Kamburu, the bidder is encouraged to provision for the mobilization of the trucking equipment when the outage for installation of the transformer is granted. The cost of mobilization by the transporter to site should be part of the transportation cost included in the price schedule. KenGen shall

NOT pay for the cost of mobilization to site.

Therefore the Bidder shall in the Price Schedule include a single item ***Inland Transport*** which will incorporate the following:

- Transportation of the transformer from the port of Mombasa to the storage plinth in Kamburu Power Station;
- Movement of the new transformer from the storage plinth to the service plinth;
- Movement of the old transformer from the service plinth to the storage plinth;
- Mobilization cost in the event that upon transportation of the transformer to Kamburu it cannot be immediately installed, necessitating the transporter to demobilize and then remobilize at a later period to install it.

KenGen shall supervise the offloading of the transformer from the ship unto to the low-loader truck, the fastening of the transformer, offloading at Kamburu Power Station and movement of transformers within the station at the time of the outage. Should the method to be used be considered unsafe on the transformer, KenGen reserves the right to STOP the bidder from continuing with the service until the methods are remedied to its satisfaction. No costs should be apportioned to KenGen as a result of exercising this right.

38 TRANSFORMER ASSEMBLY, TESTING & COMMISSIONING

The transformer shall be assembled, Oil filled, tested and commissioned. The manufacturer shall supervise the assembly, oil filling, transformer testing and commissioning at site. Labour shall be provided by KenGen while the bidder/manufacturer shall provide supervisors for the site works. The Bidder shall instruct KenGen on the oil treatment procedure as per the transformer's oil filling procedure. KenGen shall bear all costs of oil treatment.

Note that electrical protection of the transformer is not part of the scope of this project.

A minimum of the following commissioning tests shall be carried out by KenGen at its own cost and with its own test devices:

- i. Transformer capacitance and dissipation factor
- ii. Transformer turns ratio
- iii. Vector group
- iv. DC winding resistance
- v. Impedance Test
- vi. Sweep Frequency Response Analysis (SFRA)
- vii. Current Transformer tests
- viii. Oil analysis: Dissolved Gas Analysis, Breakdown voltage, oil moisture, acidity test, tan delta

Test details shall be provided to the winning Bidder. The manufacturer may propose additional tests to be done during the site works. These additional tests shall be agreed on between KenGen and the bidder/contractor at least a month before start of site works.

On successful completion of the tests and submission of the test report by the manufacturer, KenGen shall issue a completion certificate

The manufacturer shall submit a program for the Assembly, Oil filling, installation, testing and commissioning with the bid. Failure of which will result in the bid being declared none responsive. Installation, testing and commissioning shall be used as evaluation criteria based on the Unit Capacity and availability rates at the time of opening the tenders. This whole process is expected to be not more than 10 days.

The commissioning Engineer will meet all the expenses while in the client's country. However, KenGen, if prior request is made can make arrangements for Car hire, accommodation in its guest houses but all payable by the bidder.

39 COMMISSIONING EQUIPMENT

39.7 Breaker Testing Equipment

The tenderer shall supply the test equipment below together with the transformer. The equipment to be supplied is CIBANO 500 Advanced (Order code VE000901) together with the test software.

The features for the equipment are:

Commands for control of trip or close coils

Current per channel	Duty cycle
6 Aeff AC or DC	continuous
15 Aeff AC or DC	20 s on 80 s off
30 Aeff AC or DC	10 s on 190 s off
40 Aeff AC or 55 A DC	200 ms

Current / voltage output1 of integrated power supply

Source	Range	Imax, 30 s1	Imax, 2 h1
DC	0 ... ± 300 V	27.5 A	12 A
DC	0 ... ± 150 V	55 A	24 A
AC	0 ... 240 V	20 A	12 A
AC	0 ... 120 V	40 A	24 A

Power output of integrated power supply

Frequency	DC / 15 Hz ... 400 Hz		
Power	Vmains	P30s	P2h
	> 100 V	1500 W	1000 W
	> 190 V	3200 W	2400 W

Commands for motor supply

Current per channel	Duty cycle
24 Aeff AC or DC	continuous
40 Aeff AC or DC	20 s on 80 s off
55 A DC	10 s on 190 s off

Voltage input from station battery (CAT III)

Source	Range	Accuracy3
DC	0 ... 420 V	0.5 % rd + 0.5 % fs
AC	0 ... 300 V	0.5 % rd + 0.5 % fs

Inputs for auxiliary contacts (CAT III)

Auxiliary input type	Toggling with potential-free (dry) contacts or voltages (wet) up to 300 V DC
Maximum sample rate	40 kHz
Minimum resolution	25 μ s

Mains supply

Voltage	Nominal: 100 V ... 240 V AC Permitted: 85 V ... 264 V AC
Current	Nominal: 16 A
Frequency	Nominal: 50 Hz / 60 Hz Permitted: 45 Hz ... 65 Hz

Power fuse	Automatic circuit breaker with magnetic overcurrent tripping at I > 16 A
Power consumption	Continuous: < 3.5 kW Peak: < 5.0 kW

Voltage measurements (CAT III)

Source	Range	Accuracy
DC	0 ... 300 V	0.1 % rd + 0.05 % fs
AC	0 ... 300 V	0.03 % rd + 0.01 % fs
DC	0 ... 3 V	0.1 % rd + 0.05 % fs
DC	0 ... 300 mV	0.1 % rd + 0.1 % fs
DC	0 ... 30 mV	0.1 % rd + 0.1 % fs

Current measurements

Source	Range	Accuracy
DC	0 ... 55 A	0.1 % rd + 0.2 % fs
AC	0 ... 40 A	0.1 % rd + 0.1 % fs

Resistance measurements

Range	Voltage range	Injected current	Accuracy
0.1 $\mu\Omega$... 300 $\mu\Omega$	30 mV	100 A	0.2 % rd + 0.1 $\mu\Omega$
0.5 $\mu\Omega$... 3 m Ω	300 mV	100 A	0.2 % rd + 0.5 $\mu\Omega$
5 $\mu\Omega$... 30 m Ω	3 V	100 A	0.2 % rd + 5 $\mu\Omega$
50 $\mu\Omega$... 300 m Ω	3 V	10 A	0.2 % rd + 50 $\mu\Omega$

The features for the accessories are as per contained in the manufacturer's manual for the CIBANO 500 ADVANCED OPTION. These accessories include:

1. CB MC2
2. EtherCAT® MODULE
3. TEST SOFTWARE - LICENSED

Nothing LESS shall be accepted.

40 SPARES:

No.	Description	QTY	UOM
1.	Fan + Motor set, complete	1	PC
2.	HV Phase 145 kV Bushing, complete with termination clamp	3	PC
3.	52 kV HV Neutral Bushing, complete with termination clamp	2	PC
4.	24kV, 3000A LV Bushing, complete with termination copper flexes	3	PC
5.	Winding/Oil Temperature Thermometer, complete with Capillary and Bulb	2	PC
6.	Buccholz Relay	1	PC
7.	Pressure Relief Device	1	PC
8.	Conservator Rubber Bellow (Air Cell)	1	PC
9.	Oil Valves (one of each type and size)		LOT
10.	Transformer Oil (3,000 litres)	3000	L

All the spares must be itemized and quoted for separately. However, the client has the right to buy all or part of the listed and individually priced spares. The price shall remain the same irrespective of the number purchased.

41 ISSUANCE OF COMPLETION CERTIFICATE

The Manufacturer, on successful completion of manufacture of the transformer, shall send the shipping details of the transformer including the No. of packages, volumes, weight, and dimension to enable the client to organize for transportation of the goods from port of Mombasa to site. These details should be availed at least a month (four weeks) prior to shipment.

31 TECHNICAL SCHEDULE

The tenderer shall fill the technical schedule to outline the specifications of the offered transformer against the specifications outlined in clauses 1 to 23 above. Any deviation of his offer must also be indicated in the table. ***The table filling is mandatory and any bid with unfilled evaluation table below shall be considered as none responsive.***

Clause No	Technical Specifications	Bidder's Offer (Compliance)	Reference in the bidder's Document, Deviations
1	Scope:		
1.1	Design, manufacture, factory testing and supply (CFR Mombasa) of 1 no. 3-phase, 40MVA, 11/132kV, 50Hz, YNd1, ONAN/ONAF, OLTC, transformers inclusive supervision for site assembly and commissioning supervision		
1.2	Design Review Meeting for 3 engineers at Manufacturer's factory		
1.3	Factory training for two KenGen engineers for 5 days held at the factory premises		
1.4	Factory Acceptance Tests at the manufacturer's factory premises witnessed by two KenGen Engineers following the training		
1.5	Supervision of Assembly, Oil filling, testing, and commissioning of the transformer on site		
1.6	Commissioning Test Equipment as per attached specifications		
1.7	Supply of spares as per the list given in this tender		
2.	Operating Conditions:		
2.1.1	Altitude: 1000m ASL		
2.1.2	Humidity: 70 %		
2.1.3	Ambient Temperature: 300C, average		
2.1.4	Transformer to withstand Load Rejection as per IEC 60076		
2.1.5	Existing Fault Level is 2818MVA		
3.1	International Standards IEC 60076, IEC 60137		
3.2	ONAN/ONAF cooling type		
3.3	Conservator with oil resistant, long-life rubber for air cell		
3.4	Two earthing terminals located diagonally		
3.5	The transformer shall have suitably located air release valves or plugs where required as per IEC 60076-1		
3.9	The transformer shall fit on the existing plinth whose dimensions are given in this tender.		
4	Ratings		
4.1	The rating of the transformer shall be 40MVA, 11/132Kv, 3Ph, OLTC, 50Hz, YNd1, ONAN/ONAF, oil immersed Generator Step-Up Transformer		

Clause No	Technical Specifications	Bidder's Offer (Compliance)	Reference in the bidder's Document, Deviations
4.2	The rating at the two cooling types shall be: 33.7MVA for ONAN and 40MVA for ONAF.		
4.3	The transformer shall have a Star/Delta configuration according to Vector reference YNd1, with Star connection on the HV winding and Delta configuration on LV winding		
5	Connections		
5.1.1	Outdoor LV connections with vertical orientation		
5.1.2	Supply of suitably rated copper flexes and clamps		
5.1.3	Non-metallic phase identification plants		
5.2.2	HV bushings shall have clamps to adapt to		
5.2.3	Non-metallic phase identification plants		
6	Tap-changer		
6.1	On-load tap changer shall comply with IEC 60214-1 & IEC 600076-7		
6.2	OLTC with tap positions as per table in Technical Specifications		
6.3	On Load Tap Changer (OLTC) from MR Germany (attach Manufacturer certificate).		
6.4	Tap position is clearly visible from the ground		
6.6	Provision of a remote tap changer indication at Control room and required cable and cabling accessories from Transformer MK to the tap position indicator. Control room		
6.8	Provision of BCD code of tap position for connection to client SCADA		
6.10	Provision of voltage-free contacts as per list in technical specifications		
7	Core and Flux Density		
7.1	Magnetic Circuit is low loss, cold rolled, grain oriented high-grade steel. The flux density shall not exceed 1.65 Tesla.		
8	Losses, Regulation, and Impedance		
8.1	Transformer losses subject to tolerances as per IEC 60076		
8.2	Impedance Voltage at nominal tap shall not exceed 12.96%.		
8.3	Guaranteed No-Load (iron) Losses		
	Guaranteed Copper losses		
	Guaranteed Full load losses		
9	Transformer Winding		
9.2	LV winding shall be single layer helical design while HV main winding shall be disc partly interleaved design		
9.3	Transformer winding is high conductivity grade copper.		
9.4	Winding insulation is high grade Kraft paper.		

Clause No	Technical Specifications	Bidder's Offer (Compliance)	Reference in the bidder's Document, Deviations
9.7	LV and HV windings brought out through the bushings		
10	BUSHINGS, CURRENT TRANSFORMERS AND TERMINATIONS		
10.1	OIP condenser type bushing with a minimum rating of 145kV, 800Amp, 650kV B.I.L, 275kV AC withstand, fitted with protective spark gaps, outdoor type, with a test point, for Tan D, prismatic oil level gauge, venting plug on the turret, silver plated spindle and creepage distance of 25mm/kV as specified		
10.2	The HVN bushing shall be rated at 52KV, 800A, 250kV B.I.L and 95kV AC withstand, outdoor type mounted on the transformer top cover with test point and oil level gauge, venting plug and clamp as specified. Creepage distance of 25mm/kV as specified		
10.3	The LV bushings shall be rated 24kV, 3000Amp, 125kV B.I.L, 70kV AC withstand, with a silver-plated spindle, a venting plug, and creepage distance of 25mm/kV. Supply of Copper flexes rated to carry 5000Amp per phase		
10.4	Neutral CT as per table under clause 9.8.1		
10.5	HV bushing CTs as per table under clause 9.9.1		
10.6	LV bushing CTs as per table in the specifications		
10.6.3	CT secondary terminals shall be appropriately marked, wired and both terminals brought out and terminated at the marshalling kiosk TB		
10.7	CTs shall comply to IEC 61869 standard		
11	Minimum clearances as per IEC 60076-3 standard.		
12	Cooling System		
12.1	Transformer shall have ONAN and ONAF cooling systems		
12.3	Radiator banks with 130% cooling capacity.		
12.4	Submission of calculations on cooling capacity of the radiators.		
12.6	Radiators shall have appropriate oil isolating valves that are capable of withstanding a vacuum		
12.2	Signals provided shall be as listed in the technical specifications		
13	Auxiliary Supplies		
13.1	The cooler control circuits shall be supplied with 240Volts, single phase, and 50Hz AC		
13.2	The Fan and pump motors shall be supplied with 415 Volts, 3 Phase, 50Hz AC supply.		
13.3	Other Protection & Control circuits shall be supplied with 110 Volts dc.		

Clause No	Technical Specifications	Bidder's Offer (Compliance)	Reference in the bidder's Document, Deviations
13.4	The marshalling kiosk shall have a single phase 13A, 240VAC British Standard socket outlet and a three-phase (415VAC) industrial socket switched by a 32A rated miniature circuit breaker (MCB).		
14	Transformer Tank		
14.1	The tank shall be constructed of mild steel plates, complete with all accessories, with suitable jacking and lifting pads,		
14.4	The main tank body shall be pressure tested so as to ascertain the soundness of all welded joints.		
14.5	Tank top cover shall be of such a design and construction as to prevent accumulation of water.		
14.9	The tank cover shall be fitted with oil filled pockets for installation of the bulbs of the various temperature indicators.		
14.10	Gaskets for weather and oil-tight joint faces shall be Nebar® Brown gasket and cork composition conforming to Specification Ref: ASTM F104-93 93 or equivalent		
14.11	The transformer tank and all oil-bearing accessories including bushings, radiators, pipes, valves, pumps etc. assembled there on shall be capable of withstanding full vacuum.		
15.	Cleaning and painting as per clause 15		
16.	Conservator, protection & Indicators		
16.1	Conservator with long life oil resistant rubber bellow (air cell), oil level gauge, prismatic sight glass, isolating valves that can withstand full vacuum, oil level contacts wire to the marshalling kiosk		
16.1.7	Conservator with lifting lugs, dehydrating breather, inspection covers etc.		
16.2	Gas and Oil Actuated Relay		
	Transformer shall be provided with a gas and oil actuated relay of double float type (Buchholz relay) with alarm and tripping contacts		
16.3	Pressure relief device		
	Transformer shall have a self-latching, spring-actuated pressure relief device, which shall be capable of withstanding full vacuum		
16.4	Oil & Winding Temperature Indicators		
16.4.1	transformer shall be provided with three dial type temperature indicators, one for oil and two for winding temperatures		
16.4.2	Provide 4 contacts for each mercury thermometer whose magnetic switches with settings as indicated in the technical specifications		

Clause No	Technical Specifications	Bidder's Offer (Compliance)	Reference in the bidder's Document, Deviations
16.4.5	provide spares two mercury thermometers for spares		
16.4.9	provide two (2) RTDs for LV winding indication of Red and one (1) RTD for Oil temperature indication		
16.4.	Provide analogue signals of 4 ~20mA for indication of each RTD temperatures		
17	Accessibility and Inspection		
17.1	Top and bottom valves fitted with blank flanges located on opposite sides of the transformer tank, for oil filtration purposes		
17.2	Bottom valve located at the lowest point of the Transformer tank to enable draining of oil from the transformer tank.		
17.6	Oil sampling provision shall be appropriately located near the ground level to obtain sample of transformer oil from the top and bottom of the		
17.7	Ladder, with barrier, for easy access to tank top and an access to the top of the conservator from the top of the tank cover shall be provided.		
	Transformer Oil		
18.1	The transformer and all associated oil immersed equipment shall be complete with mineral oil complying with the requirement of IEC 60296.		
18.2	Oil in adequate quantities for filling of the transformer tank and accessories after assembly, will be supplied in one big steel tank together with the 3000ltrs spare oil		
19	Marshalling kiosk		
	Marshalling kiosk for the TX. No devices shall be mounted on the doors.		
20	Transportation		
20.1	The transformer main tank, core, windings, and any attached accessories shall be transported filled with dry nitrogen gas maintained at a positive pressure (0.04bar) of moisture content of not more than 5ppm		
20.4	The manufacturer shall supply, install and activate a disturbance and shock recorder to record any impact on the transformer during shipment. The recorder shall remain the property of KenGen. The battery shall be as to last the transportation period and one month more to give time for data retrieval		
28	Commissioning Equipment		
28.1	CIBANO 500 Advanced Option		

Section V - Schedule of Requirements

Notes for Preparing the Schedule of Requirements

The Schedule of Requirements shall be included in the Tendering document by the Procuring Entity, and shall cover, at a minimum, a description of the goods and services to be supplied and the delivery schedule.

The objective of the Schedule of Requirements is to provide sufficient information to enable tenderers to prepare their Tenders efficiently and accurately, in particular, the Price Schedule, for which a form is provided in Section IV. In addition, the Schedule of Requirements, together with the Price Schedule, should serve as a basis in the event of quantity variation at the time of award of contract pursuant to ITT 42.1.

The date or period for delivery should be carefully specified, taking into account (a) the implications of delivery terms stipulated in the Instructions to tenderers pursuant to the *Incoterms* rules that “delivery” takes place when goods are delivered **to the final place of delivery**, and (b) the date prescribed herein from which the Procuring Entity's delivery obligations start (i.e., notice of award, contract signature, opening or confirmation of the letter of credit).

1. List of Goods and Delivery Schedule

[The Procuring Entity shall fill in this table, with the exception of the column “Tenderer's offered Delivery date” to be filled by the tenderer]

Line Item Nº	Description of Goods	Quantity	Physical unit	Final Destination as specified in TDS	Delivery(as per Incoterms) Date		
					Earliest Delivery Date	Latest Delivery Date	Tenderer's offered Delivery date <i>[to be provided by the tenderer]</i>
<i>[insert No]</i>	<i>[insert description of Goods]</i>	<i>[insert quantity of item to be supplied]</i>	<i>[insert physical unit for the quantity]</i>	<i>[insert place of Delivery]</i>	<i>[insert the number of days following the date of effectiveness of Contract]</i>	<i>[insert the number of days following the date of effectiveness of Contract]</i>	<i>[insert the number of days following the date of effectiveness of the Contract]</i>

2. List of Related Services and Completion Schedule

[This table shall be filled in by the Procuring Entity. The Required Completion Dates should be realistic, and consistent with the required Goods Delivery Dates (as per Incoterms)].

Service	Description of Service	Quantity ¹	Physical Unit	Place where Services shall be performed	Final Completion Date(s) of Service
<i>[insert Service No]</i>	<i>[insert description of Related Services]</i>	<i>[insert quantity of items supplied]</i>	<i>[insert physical unit for the items]</i>	<i>[insert name of the Place]</i>	<i>[insert required Completion Date(s)]</i>

1. If applicable

3. Technical Specifications

- 3.1 The purpose of the Technical Specifications (TS), is to define the technical characteristics of the Goods and Related Services required by the Procuring Entity. The Procuring Entity shall prepare the detailed TS consider that:
- 3.2 These specifications describe the basic requirements for goods and services. Tenderers are requested to submit with their offers the detailed specifications, drawings, catalogues, etc. for the products they intend to supply.
- 3.3 Tenderers must indicate on the specifications sheets whether the equipment offered comply with each specified requirement.
- i) The TS constitute the benchmarks against which the Procuring Entity will verify the technical responsiveness of Tenders and subsequently evaluate the Tenders. Therefore, well-defined TS will facilitate preparation of responsive Tenders by tenderers, as well as examination, evaluation, and comparison of the Tenders by the Procuring Entity.
 - ii) The TS shall require that all goods and materials to be incorporated in the goods be new, unused, and of the most recent or current models, and that they incorporate all recent improvements in design and materials, unless provided for otherwise in the contract.
 - iii) The TS shall make use of best practices. Samples of specifications from successful similar procurements in the same country or sector may provide a sound basis for drafting the TS.
 - iv) The PPRA encourages the use of metric units.
 - v) Standardizing technical specifications may be advantageous, depending on the complexity of the goods and the repetitiveness of the type of procurement. Technical Specifications should be broad enough to avoid restrictions on workmanship, materials, and equipment commonly used in manufacturing similar kinds of goods.
 - vi) Standards for equipment, materials, and workmanship specified in the Tendering document shall not be restrictive. Recognized international standards should be specified as much as possible. Reference to brand names, catalogue numbers, or other details that limit any materials or items to a specific manufacturer should be avoided as far as possible. Where unavoidable, such item description should always be followed by the words “or substantially equivalent.” When other particular standards or codes of practice are referred to in the TS, whether from the Procuring Entity's or from other eligible countries, a statement should follow other authoritative standards that ensure at least a substantially equal quality, then the standards mentioned in the TS will also be acceptable.
 - vii) Reference to brand names and catalogue numbers should be avoided as far as possible; where unavoidable the words “or at least equivalent” shall always follow such references.
 - viii) Technical Specifications shall be fully descriptive of the requirements in respect of, but not limited to, the following:
 - a) Standards of materials and workmanship required for the production and manufacturing of the Goods.
 - b) Any sustainable procurement technical requirements shall be clearly specified.
- 3.4 To encourage tenderers' innovation in addressing sustainable procurement requirements, as long as the Tender evaluation criteria specify the mechanism for monetary adjustments for the purpose of Tender comparisons, tenderers may be invited to offer Goods that exceeds the specified minimum sustainable procurement requirements.
- i) Detailed tests required (type and number).
 - ii) Other additional work and/or Related Services required to achieve full delivery/completion.
 - iii) Detailed activities to be performed by the Supplier, and participation of the Procuring Entity thereon.
 - iv) List of detailed functional guarantees covered by the Warranty and the specification of the

liquidated damages to be applied in the event that such guarantees are not met.

- 3.5 The TS shall specify all essential technical and performance characteristics and requirements, including guaranteed or acceptable maximum or minimum values, as appropriate. Whenever necessary, the Procuring Entity shall include an additional ad-hoc Tendering form (to be an Attachment to the Letter of Tender), where the tenderer shall provide detailed information on such technical performance characteristics in respect to the corresponding acceptable or guaranteed values.
- 3.6 When the Procuring Entity requests that the tenderer provides in its Tender a part or all of the Technical Specifications, technical schedules, or other technical information, the Procuring Entity shall specify in detail the nature and extent of the required information and the manner in which it has to be presented by the tenderer in its Tender.
- 3.7 If a summary of the Technical Specifications(TS) has to be provided, the Procuring Entity shall insert information in the table below. The tenderer shall prepare a similar table to justify compliance with the requirements.

Summary of Technical Specifications: The Goods and Related Services shall comply with following Technical Specifications and Standards:

Item No	Name of Goods or Related Se	Technical Specifications and Standards
[insert item No]	[insert name]	[insert TS and Standards]

4. SCOPE

The scope of this tender shall include:

- 4.1 Design, manufacture, assembly of 40MVA, 11kV/132kV, 50Hz, **ONAN/ONAF**, YNd1, OLTC, 3-phase Step-up Generator Transformer complete as per the specifications hereafter.
- 4.2 Design Review Meeting to be held at the manufacturer's factory to be attended by three engineers from KenGen.
- 4.3 Factory training for two KenGen Engineers for 5 days, held at the factory premises.
- 4.4 Factory Acceptance Tests to be held at the factory for 7 working days witnessed by the two KenGen Engineers (who will have undergone the factory training in 1.3 above).
- 4.5 Supervision of Assembly, Oil filling, testing and commissioning of the transformer on site.
- 4.6 Commissioning Test Equipment as per attached specifications
- 4.7 Supply of spares as per the list given in this tender. The prices of the spares shall be itemized and shall be part of the price schedule of this tender.

5. OPERATING CONDITIONS

- 5.1 Operating Conditions
- 5.2 The transformer shall be suitable for continuous outdoor operation in tropical latitudes with the following atmospheric conditions:
- 5.3 Altitude: 1000M above sea level.
- 5.4 Humidity: Heavy humidity of 70%.
- 5.5 Ambient temperatures of 30oC average, (+40oC max. and +15oC min.).
- 5.6 The transformer shall be designed and manufactured to withstand load rejection conditions as per IEC 60076.
- 5.7 Existing fault level at Kamburu 132 kV bus-bar is approximately 2818 MVA. The Transformer design should be commensurate with this fault level.
- 5.8 The GSU transformer connects to a common 132kV Bus with 2 (two) other GSU transformers each with an impedance voltage of 12.394% and 9.59% at nominal tap position respectively.
- 5.9 Each of the three GSU transformers connects on the LV side to its respective generator via a generator breaker and on the HV-side to the 132kV busbar via a GSU breaker.

6. IN GENERAL

- 6.1 Transformer shall comply with the requirement of IEC60076, and any other related international specification. Any deviations from the specifications shall be mentioned as a specific item in your offer & be highlighted in the technical schedule.
- 6.2 The transformer shall be suitable for outdoor use, shall be of core type, oil immersed, oil natural air natural/oil natural air forced cooled (ONAN/ONAF) with appropriate radiators mounted on the sides of the transformer tank through isolating valves to enable removal of radiators without lowering the mail in the main tank

- 6.3 Oil preservation system: - The transformer's active parts shall be isolated from the external atmosphere, with an oil resistant long life rubber bellow provided in the conservator, separating the transformer's oil from the outer atmosphere. This facility will provide easy expansion and contraction of the transformer's insulating oil over the full operating load and temperature ranges.
- 6.4 The transformer shall have two tank earthing terminals located on diagonally opposite corners as per the current transformer. (as per existing transformer)
- 6.5 The transformer shall have suitably located air release valves or plugs where required as per IEC 60076-1. The supplier should be able to demonstrate how bleeding shall be accomplished for the radiators, Main Tank, bushing turrets, conservator and all other accessories during the oil filling process.
- 6.6 The transformer shall have stainless steel rating plate and connection diagram as IEC 60076.
- 6.7 The transformer shall have well labeled Core, Tank and frame earthing test links box, located on the transformer tank top cover and easily accessible for testing of the Insulation resistances.
- 6.8 The bidder shall clearly indicate/disclose the exact location/country where the transformer shall be manufactured.
- 6.9 The assembled transformer shall not exceed the following maximum dimensions
- 6.10 Details shall be provided during the site visit and also during the design drawing approvals.
- | | |
|---|-----------------------------------|
| Tank base Length | = 4280mm |
| Tank Base width | = 1600mm |
| Overall height of the assembled transformer | = 6400mm |
| Overall width including accessories | = 2400mm |
| Overall length of the assembled transformer | = 9900mm including the radiators. |

The existing plinth based area dimensions of the transformer shall be shall not exceed the following dimensions

Length	=	4800mm
Width	=	1800mm

The jacking pads shall be such that, they shall be within the plinth area

The bidders shall collect the details of the transformer during the mandatory site visit.

- 6.11 A sketch of the existing plinth on which the transformer shall be installed has been provided in the Appendix. Bidder should note that the plinth is not fully solid as per the sketch.

The bidders shall collect the details of the plinth during the mandatory site visit.

7. RATINGS

- 7.1 The rating of the transformer shall be 40MVA, 11/132Kv, 3Ph, OLTC, 50Hz, YNd1, ONAN/ONAF, oil immersed Generator Step-Up Transformer connected to the 132kV overhead bus-bar system with a fault level rating of 2818 MVA.
- 7.2 The rating at the two cooling types shall be: 33.7MVA for ONAN and 40MVA for ONAF.
- 7.3 The transformer shall be wound in Star/Delta configuration according to Vector reference YNd1, with Star connection on the HV winding brought out through the neutral bushing.

- 7.4 The normal rating specified shall be the continuous rating at the maximum ambient temperature of +40°C.
- 7.5 Temperature rise for the transformer shall be as follows: Top oil temperature rise shall be 50K, average winding temperature rise shall be 55K and hottest-spot winding temperature rise of 68K.

8. CONNECTIONS

8.1 LV Transformer connections:

- a) The LV bushings shall be outdoor, vertical orientation and connected to copper tubes.
- b) The bidder will supply suitably rated copper flexes and clamps for interconnection between the bushing terminal and the copper tubes (dimensions to be provided during design stage). The connection accessories between the LV bushing and the copper tubes is within the scope of supply)
- c) Non-metallic phase identification plates colored Red, Yellow, and Blue and labelled u, v, & w shall be done at suitable location on top of the transformer bushes or transformer body, so as to be visible from the ground level.

8.2 HV transformer connections

- d) On the 132kV side, the transformers will be connected directly from the HV bushings to a 132kV overhead system via 50mm² copper conductor.
- e) The 132kV bushing spindle shall have a clamp to adapt to the existing overhead conductors. The bushing spindle shall be 30mm in diameter.
- f) Non-metallic phase identification plates coloured Red, Yellow, and Blue and labeled U, V, W and N shall be done at suitable location on top of the transformer bushes, so as to be visible from the ground level.
- g) The HV bushing shall be supplied with clamps to adopt to the existing HT connections.

9. TAPPINGS AND ON LOAD TAPCHANGER

- 9.1 The OLTC to be supplied under this tender shall comply with the following standards or later revisions of the same:
- h) IEC 60214-1 2014: Performance requirements and test methods
 - i) IEC 60076-7:2005: Loading Guide for Oil-immersed Power Transformers
- 9.2 The Transformer shall be provided with an On-Load Tap Changer with 17 Taps on its High Voltage Secondary Winding for voltage variation, with tap 9 being the principal/nominal tap. The voltage variation steps shall be as shown below:

Tap Position	Tap Voltage (kV)
1	145.20
2	143.55
3	141.90
4	140.25
5	138.60
6	136.95
7	135.30
8	133.65
9 (nominal)	132.00
10	130.35

11	128.70
12	127.05
13	125.40
14	123.75
15	122.10
16	120.45
17	118.80

- 93 The tapping shall be carried out by a Maschinenfabrik Reinhausen (MR) On-Load Tap-Changer (OLTC). This OLTC shall have Vacuum as the medium for extinguishing arcs produced by the tap-switching operation. The OLTC shall have an automatic electrical operation as its norm, but also have provision for manual operation by a handle. The Technical Data sheet for the Tap changer shall be provided and shall be part of the evaluation criteria. **Only** OLTC manufactured by MR Germany, at its German factory is acceptable. Any other location or manufacturer shall lead to rejection of the offer.
- 94 The Tap Changer position indication should be clearly visible from the ground level.
- 95 The Manufacturer shall provide two ways of changing the Tap position:
- c. Automatic
 - d. Manual
- 96 These two ways shall be connected in parallel and activated by a Local/Remote Switch on the Panel. This Switch shall also be connected to the SCADA System
- 97 The Manufacturer shall provide a remote Tap Changer position indicator, indicating the selected tap position and its corresponding tap voltage. This indicator will be wired to the Control Room. The required interconnection cables and cabling accessories are in the scope of this tender.
- 98 The Manufacturer shall also provide a Binary Coded Decimal Signal (BCD) for the connection of the tap position information to the clients SCADA system. The bidder shall provide all required interconnection cables and cabling accessories for the connection of the transformer OLTC signals to the KenGen SCADA's cabinets at the control room.
- 99 The Manufacturer shall provide the following signals locally on the Tap Changer:
- f. Raise (both manual and electrical)
 - g. Lower (both manual and electrical)
 - h. Tap Changer Position
 - i. Local/Remote Selection
 - j. Control Supply Failure
- 9.10 The Manufacturer shall provide voltage-free contacts to wire the following signals for remote connection to SCADA:
- k. Raise Tap
 - l. Lower Tap
 - m. Local/Remote Selection
 - n. Tap Change in Progress
 - o. Tap Change Incomplete
 - p. Tap Position
 - q. Out of Step
 - r. Extreme Tap
 - s. Pressure Relief Device operated
 - t. Motor Supply Failure

10. CORE AND FLUX DENSITY

The magnetic circuit shall be of low loss, cold rolled, grain oriented high-grade steel.

The flux density at any point of the magnetic circuit when the transformer is connected on the principal tapping and operating at nominal voltage and frequency shall not exceed 1.65 Tesla (16500 lines/sq. cm).

11. LOSSES, REGULATION AND IMPEDANCE

- 11.1 Losses of the transformer shall be stated and shall be subjected to tolerances in accordance with IEC 60076. The fixed losses shall be as low as is consistent with good design, reliability and economical use of materials.
- 11.2 The impedance voltage at extreme tapping and principal tapping shall be stated and shall be subject to tolerance in accordance with IEC 60076. The required % age impedances at nominal tap shall not exceed 12.96%. The fault level rating is 2818 MVA and the fault current rating for a three-phase short-circuit fault is 12,324 A.
- 11.3 Guaranteed No-load and Full-Load losses (capitalized losses) should be stated in the offer. The capitalization of the losses shall be computed based on the ***Present Value Formula*** for a period of 30 years life of the transformer measured from date of tender opening.

12. TRANSFORMER WINDING

- 12.1 The form of construction of the Windings shall be concentric as follows: the LV winding next to the Core limb; the HV Main Winding over the LV Winding; the HV Regulating Winding over the HV Main Winding.
- 12.2 The LV Winding shall have a single layer helical design. The HV Main Winding shall have a disc partly interleaved design. The HV Regulating Winding shall have a disc design.
- 12.3 The Winding material shall be high conductivity grade copper.
- 12.4 The Winding insulation shall be high grade Kraft paper.
- 12.5 The Windings shall be dried in an oven and compressed before assembly, and clamping bolts used to ensure it remains in compressed position, able to withstand sudden expansion caused by faults and short circuits.
- 12.6 Between the Core and the LV Winding, and between the Windings, and between the Coils of each Winding, suitable insulation and Winding Coil Ducts shall be provided.
- 12.7 The leads of the LV Winding, the HV Main Winding and the HV Regulating Winding shall be drawn out from the top of the Core-Winding Assembly with sufficient length for termination at the Bushing tips.
- 12.8 The Basic Insulation Level (BIL) of the HV Winding shall be 650 kV peak.
- 12.9 The BIL of the HVN Winding shall be 250 kV peak.
- 12.10 The BIL of the LV Winding shall be 125 kV peak.

13. BUSHINGS, CURRENT TRANSFORMERS AND TERMINATIONS

The transformer bushings for LV and HV windings shall be brought out separately. These bushings shall comply with IEC 60137 edition 5 or later.

The Transformer phases shall be clearly marked and labeled using the nomenclature R, Y, B, N for high voltage and r, y, b for low voltage winding. Marking shall be of stainless steel plate and clearly

visible from ground level.

13.1 High Voltage Bushings:

- a) The HV bushings shall be oil filled Oil Impregnated Paper (OIP) condenser type of bushings.
- b) The minimum rating of the OIP condenser bushing shall be 145kV, 800Amp, 650KV B.I.L, 275kV AC withstand. .
- c) The HV bushings shall be fitted with protective spark gaps.
- d) The HV bushing shall be of the outdoor type mounted on the transformer top cover in order to connect with overhead bus-bar via bare copper conductor.
- e) The HV bushing shall be provided with suitable test point for testing bushing capacitance and dissipation factor.
- f) The HV bushings shall be equipped with an oil level gauge of prismatic glass and visible level indicator.
- g) The bushing(s) shall have an oil venting plug on the turret.
- h) The HV bushing spindle must be silver plated copper for use with suitable copper clamps in the scope of supply for connection to the overhead system via bare copper conductor.
- i) The air clearances shall be so coordinated that the probability of a flashover from the terminal of one winding to the terminal of another winding is negligible. This shall be as per IEC 60071.1.
- j) The creepage distance of bushings must not be less than 25mm /kV based on the highest operating phase-to-phase voltage.
- k) The Terminal Clamps and accessories required to connect the HVPB to the overhead Circuit shall form part of the scope of this tender. Any further details of Terminal Clamps shall be provided at the design stage to the winning Bidder.

13.2 High Voltage Neutral bushing (HVN):

- a) The HV bushings shall be oil filled Oil Impregnated Paper (OIP) condenser type of bushings.
- b) The minimum rating of the OIP condenser bushing shall be 52KV, 800Amp, 250KV B.I.L and 95kV AC withstand.
- c) The neutral bushing shall be of the outdoor type mounted on the transformer top cover
- d) The neutral bushing shall be provided with suitable test point for testing bushing capacitance and Tan-Delta.
- e) The neutral bushings shall be equipped with an oil level gauge of prismatic glass.
- f) The bushing shall have an oil venting plug on its turret.
- g) The neutral bushing shall be provided with the appropriate bushing clamp and insulated copper bar for linking the neutral terminal to the existing earthing network. The necessary termination copper clamps shall form part of the bid.
- h) The earthing strip from the Neutral bushing to the ground level shall be in the scope of supply. The strip shall be anchored on the transformer body through insulators. The strip and its accessories shall be part of the scope of this tender
- i) The creepage distance of the bushing must not be less than 25mm/kV based on the highest operating phase-to-phase voltage.
- j) The connection clamp and connection accessories shall be in the scope of supply

13.3 Low Voltage Bushings:

- a) The LV bushing shall be solid, oil commutating outdoor type
- b) The minimum rating of the bushing shall be 24 kV rms, 3000 A, 125 kV BIL, 125 kV rated lightning impulse withstand voltage, and 50 kV rms rated short duration induced voltage rating.

- c) The LV bushings shall be mounted on the transformer tank top cover with a vertical orientation and shall be spaced at 800 mm center to center
- d) The bushing(s) shall have an oil venting plug
- e) The LV bushing terminal must be silver plated for use with copper connectors which shall be in the scope of supply.
- f) The air clearances shall be so coordinated that the probability of a flashover from the terminal of one winding to the terminal of another winding is negligible as per IEC 60076.
- g) The creepage distance of bushings must not be less than 25mm /kV based on the highest operating phase-to-phase voltage.

Test results for routine tests shall be provided before the FAT.

13.4 Neutral Current Transformers

The neutral current transformers shall be as specified below:

<i>CT</i>	<i>Burden (VA)</i>	<i>Class</i>	<i>Function</i>	<i>Ratio</i>	<i>Phase</i>	<i>Qty/Ph</i>
1	30	X	REF Protection	200/1	N	1
2	15	5P20	BUSBAR Protection	200/1	N	1

The neutral current transformers shall be oil filled, and of outdoor type.

13.5 Oil Filled Bushing Current Transformers for HV Bushings.

The HV bushings shall each be provided with the following oil filled current transformers for protection and metering purposes:

<i>CT</i>	<i>Burden (VA)</i>	<i>Class</i>	<i>Function</i>	<i>Ratio</i>	<i>Phase</i>	<i>Qty/Ph</i>
1	30	5P40	Busbar Protection	1000/1	R,Y,B	1
2	30	5P20	Over-current Protection	200/1	R,Y,B	1
3	30	Class X	Differential Protection	200/1	R,Y,B	1
4	15	0.2	Metering	200/1	R & B	1

13.6 Oil Filled Bushing Current Transformers for LV Bushings.

- a) The LV bushings shall be provided with the following oil filled current transformers;

<i>CT</i>	<i>Burden (VA)</i>	<i>Class</i>	<i>Function</i>	<i>Ratio</i>	<i>Phases</i>	<i>Qty/Ph</i>
1	15	1	WTI (Winding Temp. Indicator)	To match the W.T.I	R & B	1

- b) The current transformer providing winding temperature compensation shall be located at the discretion of the manufacturer. This shall be commensurate with the WTI installed.
- c) The CT secondary terminals should be appropriately marked, wired and both terminals should be terminated at the marshalling kiosk. The CT terminal blocks at the marshalling kiosk shall be of the sliding link type.

13.7 The CTs shall comply with the requirements of IEC 61869 standard.

- 13.8 The P1 and P2 terminals shall be clearly marked in the CTs turret and the corresponding CT cores marked on the Terminals. The same shall be clearly duplicated on the drawings

14. CLEARANCES

Minimum external air clearance shall be according to relevant and latest versions of IEC 60076-3 standard.

15. MARSHALLING KIOSK

- 15.1 The marshalling kiosk shall be of outdoor, weatherproof, vermin proof type to IP54 protection. It shall have a hinged, lockable door with a safety wind stop which shall be fitted with glass panel windows approximately 1500mm above ground level to facilitate reading of oil and winding temperature gauges without opening the door.
- 15.2 The marshalling kiosk shall be mounted on the transformer tank and should be fitted with vibration absorption pads (on the same side (as the existing transformer.)). The bottom side of the MK shall not be more than 500mm from the ground.

- 15.3 The marshalling kiosk shall have the following:-

- a. Two Mercury winding temperature indicators (U & W Phases) and one Mercury Oil Temperature indicator as specified in clause 17.4
 - b. Suitable starters for fan motors with thermal overload, single phase failure relay and normally closed electrical auxiliary contacts for fans failure alarm / trip circuits.
 - c. Selector switches with 'OFF', 'MANUAL', 'TEST' and 'AUTO' positions for fans control.
 - d. An internal LED lamp, supply at 240VAC, with a door limit switch for the control of the lamp.
 - e. A panel heater controlled by use of a thermostat
 - f. Ground connection copper bar
 - g. Auxiliary circuits' MCBs, links, terminal connectors.
 - h. Two separate removable glanding plates shall be provided for incoming and outgoing cables. Both plates for the outgoing and incoming cables shall be of the same size. The glanding plate for the outgoing cables shall be pre-perforated for ease of glanding at site. An equal number and size of cable glands shall be supplied.
 - i. The marshalling kiosk shall be designed for bottom entry of all cables into and out of the kiosk.
 - j. The Manufacturer shall wire all the transformer circuits from the transformer devices to the marshalling kiosk. This includes the bushing CTs, On Load Tap Changer indications etc.
 - k. The CTs TB shall be the sliding type providing shorting and open circuiting of the CTs
 - l. to the terminal block in the MK The manufacturer shall provide voltage free contacts for indication of the following:
 - i. for each fan and status – ON, OFF, TRIPPED
 - ii. Radiator selections – OFF, TEST, AUTO, MANUAL
- All these shall be wired.

- 15.4 A remote indication cabinet shall be provided with the following specifications:

- a. Shall be approximately 1000 mm by 500 mm in size.
- b. Shall be mounted in the control room 500 m away.
- c. Shall house three digital temperature indicators for the two WTI and the OTI. Three digital temperature indicators shall be provided for remote temperature indications. They shall have an output for 4-20mA signal to clients' SCADA system. The digital read outs shall be big enough to be read comfortably 5m away.
- d. Shall house digital tap position indicator described in clause 6 of specification
- e. Shall have status and position indication lamps of light emitting diode type (LEDs) for the following: DC supply failure, AC supply failure, cooler ON/OFF and cooler in auto position

indication. Lamp covers shall be of screwed type, unbreakable and moulded from heat resisting material and shall be translucent to diffuse light & coloured as specified during design stage

- f. Cables from the marshalling Kiosk to the remote indication cabinet shall be provided by the contractor. All cables shall be sheathed with armour. The conductors shall be 1.5mm² for digital signal, 0.75mm² twisted pairs for analogue signal and 4mm² for CT and VT outputs. Cables for analogue signal shall be shielded and armoured.

16. AUXILIARY SUPPLIES

- 16.1 The cooler control circuits shall be supplied with 240Volts, single phase, and 50Hz AC supply.
- 16.2 The Fan motors shall be supplied with 415 Volts, 3 Phase, 50Hz AC. supply. The manufacturer shall provide suitable terminating blocks at the marshalling kiosk for the connection of the power supply to the fan motors.
- 16.3 Other Protection & Control circuits shall be supplied with 110 Volts dc.
- 16.4 The marshalling kiosk shall have a single phase 13A, 240VAC British Standard socket outlet and a three-phase (415VAC) industrial socket switched by a 32A rated miniature circuit breaker (MCB).

17. TANK AND TANK COVER

- 17.1 The tank shall be constructed of mild steel plates and shall be complete with all accessories. It shall be so designed as to allow the complete transformer when filled with oil to be lifted by crane or jacks, transported by road, rail or on water without overstraining any joints and without causing subsequent leakage of oil.
- 17.2 The base of the tank shall be so designed that it shall be possible to move the complete transformer unit in any direction without injury when using rollers, plates or rails.
- 17.3 All joints other than those which may have to be broken shall be welded.
- 17.4 The main tank body shall be pressure tested so as to ascertain the soundness of all welded joints.
- 17.5 The Tank top cover shall be of such a design and construction as to prevent accumulation of water and shall be bolted to the flange on the tank top to form a weatherproof joint.
- 17.6 Tank top cover shall be separated from the active part of the core i.e. it can be removed without disturbing the winding core assembly which is completely separated from the top cover.
- 17.7 Inspection openings shall be provided as necessary to give easy access to bushing terminations, tap-change switch, core earthing links, internal current transformers and any other components required to be accessed during the process of repair, maintenance and tests.
- 17.8
- 17.9 14.8 Tank cover and inspection covers shall be provided with suitable jacking and lifting arrangements. Inspection covers shall not weigh more than 25kg each.
- 17.10 The tank cover shall be fitted with oil filled pockets for installation of the bulbs of the various temperature indicators. The pockets should be of such design so that the installation / removal of the bulb fittings should in no way interfere with the transformer's main tank oil. Protection shall be provided where necessary for each capillary tube. The pocket shall be fitted with a captive screwed cap to prevent ingress of water.
- 17.11 The pocket shall be located in a position of maximum oil temperature at maximum continuous loading.

- 17.12 Gaskets for weather and oil-tight joint faces shall be Nebar® Brown gasket and cork composition conforming to Specification Ref: ASTM F104-93 or equivalent international specification. The gasket shall have a minimum thickness of 5mm, except that where jointing faces are precision machined, thinner gaskets may be used.
- 17.13 The tank side shall be provided with two inspection covers on the HV side of the tank (one each on either side of Red phase winding), placed midway along the height of the transformer to facilitate inspection of the windings when need arises. These inspection covers shall be accessible without removing the cooler banks. The covers shall be bolted for ease of opening them without the bolt or nut falling inside the tank. They shall be provided with Nebar ® Brown gasket to make it oil leak free.
- 17.14 All bolts and nuts used on the main tank cover, the inspection covers, accessories and any temporary blanking plates shall have the international metric (M) standard sizes (mm).

18. CLEANING AND PAINTING

Cleaning and painting shall be in accordance with the following requirements:

18.1 Tank and Accessories

The exteriors shall be thoroughly cleaned by shot blasting or other approved methods and given a priming coat and two under-coats of durable weather-resisting paint. The final coat shall be gloss KenGen Light Grey. RAL 7035

The interior of the transformer tank and other oil-filled chambers shall be cleaned of all scale and rust by shot blasting or other approved methods, and shall be given the required coatings of oil resistant paint.

The tank itself, its main cover, inspection covers, and any temporary blanking plates shall all be painted separately and then afterwards assembled together.

19. Paints

All paints used on interior and external surfaces shall be of Fire Retardant type.

20. COOLING SYSTEM

- 20.1 The transformer shall have two cooling types: Oil Natural Air Natural (**ONAN**) and Oil Natural Air Forced (**ONAF**) cooling. The systems shall consist of radiators and fans. Each radiator shall have corresponding fan(s).
- 20.2 The radiators may be positioned on either side of the transformer tank apart from the side with the medium voltage (11kV) terminals.
- 20.3 The transformer shall have radiator bank(s) with 130% of the required cooling capacity for cooling of the transformer. The radiators fitted on the transformer tank shall be 1.3 times the number required to ensure that the transformer is cooled under normal operating conditions when operated at continuous rated power and ambient conditions
- 20.4 During design approval, the bidder must demonstrate that the radiators installed are rated at 1.3 times the number required to dissipate the heat loss by the transformer. This shall be by means of calculations submitted to KenGen for approval during design approval process.
- 20.5 A loss of fan due to a trip or loss of supply shall start the spare radiator bank(s) to ensure continuous cooling of the transformer.
- 20.6 Radiators shall have appropriate oil isolating valves to allow for easy assembly / dis-assembly of the exchanger without having to lower the oil level in the main tank. These valves shall be airtight capable of allowing vacuuming of the main tank without necessarily dismantling the cooling banks. An oil drain plug shall be provided to enable draining of the oil.

- 20.7 The following shall be provided for in each radiator
- Vent boss and plug
 - Drain boss tap and plug.
 - Detachable radiator tie bar
- 20.8 Motor driven fans fitted with wire mesh guards, shall be mounted / coupled in such a manner as to allow easy assembly / dis-assembly without interference to the radiator assembly or draining the oil on both main tank and radiator.
- 20.9 All motors shall be totally enclosed and rated for continuous operation. They shall be weather proof, outdoor type fitted with terminal boxes and glands to accommodate multicore cables. The direction of suction and discharge of the oil shall be horizontal.
- 20.10 Lifting lugs for the cooling system components appropriately situated shall be provided. Radiators shall be so designed to prevent accumulation of rainwater.
- 20.11 The radiators will be such as not to interfere with the horizontal take off the power copper bars/tubes and conductors on both the LV and HV side of the transformer.
- 20.12 The Manufacturer shall provide the following signals from the Cooling System to the SCADA System via the Marshalling Kiosk:
- Manual/Auto Fan Selection
 - Fan Group 1 Running
 - Fan Group 2 Running
 - Fan Group 1 Failure (Alarm)
 - Fan Group 2 Failure (Alarm)
 - Fan Supply Failure (Alarm)
 - Control Supply Failure (Alarm)
- 20.13 The rating (kW, Power factor, Current) for each cooling fans shall be stated and the total number of fans per cooling bank. (Duty and standby radiators). ***This shall be used in computing the capitalization of losses of the Transformer and its total Cost of ownership over its entire 30 years life based on the Present Value Formula.***

21. FITTINGS

21.1 Conservator

- The conservator should be designed with a long life oil resistant rubber bellow air cell, which will provide a separation between the transformer oil and the outside atmosphere. It should be capable of allowing free expansion and contraction of the Transformer's oil mass, over the full temperature operating range of the transformer. Appropriate air release valves shall be supplied.
- The manufacturer shall provide an elaborate oil filling procedure for the transformer in regard to the bellow described above. The procedure shall be on a plate fixed on the transformer tank.
- The conservator shall be in such a position as not to obstruct the electrical connections to the transformer.
- The conservator shall be designed and manufactured such that it shall NOT be installed on the same side with the radiator banks.
- An Oil level gauge shall be provided at one end of the conservator and its level markings shall be visible from the ground level. The oil level gauge shall have a Low and a High Oil Level contact that shall be wired to the marshalling kiosk (30°C mark shall be marked on the gauge).

- f) The conservator shall be provided with a prismatic sight glass for oil level monitoring with its level markings visible from the ground level.
- g) The conservator shall also be provided with;
- h) Lifting lugs for lifting the conservator when empty.
- i) Drain and filter valves lockable in open or closed position
- j) Inspection covers to permit inspection of the bellow.
- k) Dehydrating breather
- l) The valves isolating the conservator from the main transformer tank shall be able to withstand full vacuum to eliminate the need to drain the oil from the conservator when carrying out vacuuming of the transformer.
- m) The conservator shall be equipped with oil level indicator with a low-level contact. This shall be suitable for 110Vdc. These contacts shall be wired to the Marshalling kiosk terminal block

21.2 Gas and Oil Actuated Relay

- a) Transformer shall be provided with a gas and oil actuated relay of double float type (Buchholz relay) with alarm and tripping contacts to detect slow accumulation of gas or sudden changes of oil pressure. This shall be complete with lockable ball shut-off valves in open and closed position and flange couplings to facilitate easy removal without lowering oil level in the main tank or conservator.
- b) Bleed valve for gas venting and test valve, shall be accessible from ground level through a copper pipe with an appropriate end valve.
- c) All contacts to be suitably wired and terminated at the marshalling kiosk.

21.3 Pressure Relief Device

- a) A pressure relief device shall be provided and mounted at a suitable position where the trip actuating flag will be clearly visible from the ground.
- b) The pressure relief device should be spring-actuated type operating instantly once a pressure of 0.552+ 5% bar is sensed and shroud to direct the oil away from the tank.
- c) The device shall be self-latching once the over pressures condition ceases.
- d) However, it should be provided with a mechanical indicator and trip contacts wired to the marshalling kiosk, which is not self-resetting.
- e) The device should also be capable of withstanding full vacuum, which may be applied to the transformer tank during maintenance without affecting its operating characteristics.
- f) A Pressure–vacuum gauge for sealed tank design shall be provided.
- g) The contact for the operation shall be wired and terminated in the TB in the marshalling kiosk.

21.4 Oil & Winding Temperature Indicators

- a) The transformer shall be provided with three dial type temperature indicators, one for oil and two for winding temperatures. The winding temperature indicators shall have associated current transformers.
- b) The dial of the temperature indicators shall have a scale ranging from 0oC to 160oC, preferably uniformly divided.
- c) The temperature indicators shall have a maximum temperature pointer drag, hand type resetting knob and four separately adjustable mercury contacts for alarm, trip and operation of cooler control circuits as may be required.
- d) The contacts shall be suitable for high capacity snap-action type with ratings up to 10 Ampere for 125/250 volts. The contacts shall have the following duties and characteristics:

d) **Alarm**

Adjustable setting: 70°C to 140°C
Fixed differential: Not more than 10°C

e) **Trip**

Adjustable setting: 70°C to 140°C
Fixed differential: Not more than 10°C

f) **Spare Contacts**

All contacts shall be adjustable to a scale and shall be accessible on removal of the cover.

- e) The manufacturer shall provide as spares two mercury thermometers that can be used in either of the positions and as specified above.
- f) Isolating and test links shall be provided in a control cubicle to allow for measuring winding temperature and testing the heater coil.
- g) The calibration of indicator shall be related to the winding having the maximum temperature rise (LV winding).
- h) If the value on the winding temperature indicator varies by more than 30°C from the values derived during the temperature rise tests, then adjustment shall be made to the temperature indicator to achieve these limits.
- i) The manufacturer shall provide resistance temperature detectors (RTD) as follows
 - c) Two (2) RTDs for transformer winding indication of LV Red and Blue phases.
 - d) One (1) RTD for Oil temperature indication
- j) The manufacturer shall provide remote temperature indicators for the RTD temperatures described above.
- k) The manufacturer shall also provide an analogue signal of 4 -20mA for indication of each RTD temperatures (as mentioned above) in the SCADA. These shall be wired to the TB in the MK.
- l) The manufacturer will provide the suitable cable for interconnection of the Marshalling kiosk and Remote indicator located at the control room, 100metres away.

22. TANK VALVES AND SAMPLING PROVISION

The following shall be provided on the transformer tank:

- 22.1 Top and bottom valves fitted with blank flanges located on opposite sides of the transformer tank, for oil filtration purposes. The top valve shall have a pipe extension to a height reachable from the ground level.
- 22.2 Additional bottom valve suitably located at the lowest point of the transformer tank to enable draining of oil from the transformer tank.
- 22.3 All valves shall close with a clockwise rotation. All valves shall be provided with clearly visible “open” and “closed” position indicators.
- 22.4 All valves shall be capable of being padlocked in the open or closed positions, and shall incorporate an 8mm clearance hole for padlock. Locking pin shall be of anti- rattle design so as not to add to noise emissions.
- 22.5 All connection flanges that will have no connections during normal operation of the transformer shall have blanking plates that can withstand full vacuum and shall be appropriately treated against rusting.
- 22.6 Oil sampling provision shall be appropriately located near the ground level to obtain sample of transformer oil from the top and bottom of the tank.
- 22.7 Ladder with barrier for easy access to tank top cover and should have provision for padlocking to prevent access by unauthorized person complete with handhold.

- 22.8 Additionally, there shall be a provision to access the top of the conservator from the top of the tank cover. This may be achieved by use of ladder or provision of stepping rungs.
- 22.9 All electrically connected accessories must be fully cabled and wired to the marshalling kiosk terminal box.

23. OIL

- 23.1 The transformer and all associated oil immersed equipment shall be complete with non-inhibited mineral oil complying with the requirement of IEC 60296.
- 23.2 Oil in adequate quantities for filling of the transformer tank and accessories after assembly, will be supplied one or two steel tanks with a capacity to fill the tank and a spare oil of 3000 litres shall be provided with the transformer.

24. PACKING AND SHIPMENT

- 24.1 Transportation- the transformer main tank, core, windings and any attached accessories shall be shipped filled with dry nitrogen gas from a suitably sized cylinder maintained at a positive pressure. The moisture content of the Nitrogen gas shall not exceed 5ppm and a pressure monitoring gauge shall be installed. The above shall be the property of the client upon arrival to the site.
- 24.2 All other detached accessories that normally function under oil, shall be appropriately sealed to protect them against moisture or attack by weather.
- 24.3 All items shall be so packed as to protect them against weather and mechanical damage during the shipment.
- 24.4 The manufacturer shall supply and install disturbance / shock recorder to record any impact on the transformer during shipment. The shock absorber shall be installed at the factory and activated. The procedure for impact data retrieval shall be sent in soft to KenGen, 2 weeks prior to shipment of the transformer. The impact recorder shall remain the property of KenGen

NOTE: ~ The transformer tank and all oil-bearing accessories including bushings, radiators, pipes, valves, pressure relief device etc. assembled there on shall be capable of withstanding full vacuum. This should be so stated on the rating plate. **This will form part of the evaluation criteria.**

In this connection, suitable provision should be made at the top most point of the tank to enable easy connection of the vacuuming apparatus at the same time being able to isolate the conservator and its rubber bellow from the vacuuming circuit.

25. REVIEW AND APPROVAL OF TRANSFORMER DESIGN BEFORE MANUFACTURE

25.1 Drawings Approvals

- a) During the design stage, the contractor shall send drawings to the client for approval and comments. A copy of each drawing and item of data will be returned to the Contractor marked "Approved", or "Approved as noted", or "Not Approved".
- b) Drawings submitted by the contractor for approval will be checked / reviewed by the employer and comments, if any, on the same will be conveyed to the contractor. It is the responsibility of the contractor to incorporate correctly all the comments conveyed by the Employer on the Contractor's drawings. If the Contractor is unable to incorporate certain comments in his drawings, he/she shall clearly state in his forwarding letter such non-compliance along with valid reasons and justification.
- c) Comment of "not approved" would imply the drawing has to be re-done as per comments given; meaning the client is not in agreement with the content, idea and implications of

the drawing on the overall design and operation of the system. Comment of “approved as noted” shall imply the client is in agreement with the idea or implications of the drawing but requires some changes to be implemented before approval.

- d) Drawings and data requiring revision shall be promptly dealt with and resubmitted as aforementioned. Thereafter, changes shall NOT be made in the Contractor’s drawing without written permission of the Client Engineer. The above procedure shall be repeated for all authorized changes.
- e) It is to be understood, however, that approval of the drawings shall not relieve the Contractor of any responsibility in connection with the work.
- f) All drawing submitted for approval or sent to the Client for any other reason may be sent by courier or e-mail
- g) Any work performed or material ordered by the contractor prior to receipt of drawings stamped ‘Approved’ by the employer shall be at the risk of the contractor. After print of any drawing has been returned ‘Approved’, the contractor may release the parts covered by the drawing, for production / construction.
- h) All drawings and data supplied by the Contractor subsequent to the date of contract, which cover changes in the work, extra work, or which supplement existing drawings and data shall, upon approval by the Client Engineer, form part of the contract documents.
- i) If, at any time before the completion of the work, changes are made necessitating revision of approved drawings, the contractor shall make such revisions and proceed in the same routine as for the original approval.
- j) To expedite the delivery and return of the required drawings, scanned drawings shall be used and sent to the following KenGen E-mail addresses—
jochar@kengen.co.ke
c.c. bpogeto@kengen.co.ke
nngumi@kengen.co.ke
Or any other email supplied by the client.
- k) The work shall be in accordance with the approved drawings and data and shall not be commenced until such approval has been obtained. Subsequent changes contemplated by the Contractor shall be indicated on revised drawings and data resubmitted for approval. The Contractor shall make any changes in the design which are considered necessary to make the work conform to the provisions and intent of the specification without additional cost to KenGen.
- l) Approval of the Contractor’s drawings and data shall in no way construe or imply relief of the Contractor from responsibility for any error or omission therein or from any obligation under the Contract.

25.2 Technical Documentation

- a) Technical documentation shall consist of but not limited to:-Introduction/overview of project components, overall operating philosophy, operating conditions, detailed description of the equipment, emergency procedures, description of equipment arrangement, design calculations, maintenance and test instructions/procedures, installation instructions, operation instructions, manufacturer data sheets & catalogues, software manuals, detailed instructions for programming settings and configuration, wiring drawings, cable schedules, terminal diagrams, device lists, schematic drawings and mechanical & structural assembly drawings.
- b) Four sets of manuals shall be provided, the manuals shall contain:-
- c) Equipment overall design and specific detailed features of design including: descriptive drawings where practicable, schematic diagrams, block diagrams, list of internal materials, connection and terminal list, equipment and components dimensional drawing and control diagram.
- d) Complete operating instructions: included shall be precautions and critical points to be observed, including suggested form to be used in taking periodic readings to maintain an operations record. There shall be a tabulation of possible operating difficulties with the probable causes

listed and remedial action to be undertaken for each one.

- e) Design Data for the equipment specifying power, kilowatts, voltage, amperage, temperature, flow etc. characteristic curves for the equipment. Detailed description of the equipment: individual components, relevant clearances, tolerances, allowable temperatures, settings etc.
- f) Manufacturer catalogues and technical data sheets for all components and devices.
- g) Complete instructions for ordering replacement parts in a manner that would prevent errors or misunderstanding. Recommended forms for tabulating replacement part information and instructions for returning materials to the factory shall be included.
- h) Maintenance instructions manuals split into:
 - i) Manuals for preventive maintenance indicating periodic inspections, tests, cleaning, lubrication and other routine maintenance. A clear concise document with CHECKLISTS detailing tests and inspections to be done after duration of time e.g. monthly, annual etc.
 - j) Repair manuals describing fault location, dismantling, re-assembly etc.
 - k) Detailed instructions for programming settings and configuration of all software configurable devices. Instructions for downloading, uploading and backing up settings & configurations,
- l) Factory test report (FAT) and commissioning report (SAT) shall be included the final documentation. This shall include but not limited to: - plotted characteristic curves during commissioning, set points for various parameters, instrumentation set points, alarm and trip set points, test results e.g. CT excitation curves, PRD operation pressure, winding and oil temperature alarm and trip temperatures etc
 - m) The documentation shall leave the operators and maintenance personnel in position to operate the plant in a safe and optimal way and to perform repairs, upgrades and rehabilitation usual to be done by such personnel.
 - n) The Project Engineer shall approve all technical documents before final submission.
 - o) As Built Drawings, Commissioning test report, manuals and other technical documentation to be submitted 2 months after commissioning)
 - p) All technical documentation shall be in English Language ONLY

25.3 Final Documentation

- a) After all items of the work have been manufactured, erected and commissioned; complete sets of prints and softcopies of the technical documentation for all new systems and interfaced plant systems shall be furnished as indicated below.
- b) Soft copies of ALL technical documentation as defined in section 21.2 well organized using document management application program linking all documents in the project via hyperlinks etc. The document management application program shall
 - (i) Run on any PC without installation or requiring a license.
 - (ii) Enable searching of content easily
 - (iii) Organize all technical documentation in chapters or volumes for easy viewing of the contents
 - (iv) Document management application based on HTML that can easily be read by web browser is preferred.
- c) Soft copies of ALL as built drawings in AutoCAD format and any other CAD s software format if used or agreed upon with project engineer
- d) Four Complete sets of bound prints for ALL documentation and ALL as built drawings and logic diagrams in A4
- e) Four Complete sets of bound prints for all as built SCHEMATIC drawings in A3 (ONLY schematics for electrical documentation will be provided in A3, this does not include terminal diagrams or any other electrical related documents)
- f) Four Complete sets of bound prints for all as built structural and mechanical drawings in A3 and A2/A1.
- g) All existing clients' drawings affected by the new system reviewed and updated by the

- contractor in two sets one A3 another A4 size sheets
- h) Soft copies of ALL Logic diagrams in original software format and the software with a license, used to create the logic diagrams/programs

26. ENGINEERING SERVICES

26.1 Design Review Meeting

- a) There shall be a design review meeting to be held at the transformer factory premises. The meeting will be held after the manufacturer has completed and submitted draft design of the transformer to KenGen for review. The review meeting shall be held before any key components are purchased for the manufacture of the transformer. The review meeting shall be guided by Cigre document 529 of April 2013 issued by Working group A2.36.
- b) During the design review meeting, three KenGen engineers shall be involved for a period of 5 days. The tenderer shall meet the costs of travel of KenGen engineers from their hotel to meeting venue. KenGen shall cater for all the other costs incurred by the engineers during this visit.
- c) The meeting shall include review of the factory capacity and capability, design calculations for winding impedances, winding construction, core and frame assembly, protection and control wiring, quality control checks of the manufacturer, tank construction and placement of accessories, cooling capabilities, temperature limits, tap changer specifications, etc. The meeting will also review the factory tests and their procedures to ensure that they meet international standards.
- d) The meeting will also discuss transportation of the transformer, site works including testing and commissioning.

26.2 Factory Training

The Contractor shall, before conducting the Factory Acceptance Tests on the Transformer, engage three Client's Representatives in a 5 days training that covers, among other things:

- a) transformer design (electrical)– design of core, design of winding, types of winding (helical, spiral, disc, cross-over) load losses, temperature rise and cooling system, determination of technical data
- b) transformer design (mechanical) – laminations, core & active part, winding, transformer tank, conservator and accessories
- c) manufacturing processes and factory tour – core assembly, winding of LV and HV windings, quality control checks during manufacturing
- d) Transformer testing in theory and in practice : Heat Run, Lightning Impulse, SFRA, Capacitance and Dissipation Factor, Winding Resistance Measurement, Dissolved Gas Analysis
- e) Transformer maintenance and repair, diagnostic testing, condition monitoring

26.3 Factory Acceptance Testing

- a) The complete transformer assembled to service condition shall be capable of withstanding impulse and power frequency voltages in full compliance with the requirements of IEC 60076-3, including latest amendments.

- b) The Transformer must be free of “Corona Discharge” at operating voltage level.
- c) The following tests shall be carried out on the fully-assembled Transformer at the factory of manufacture as per IEC 60076 standard before shipment and shall be witnessed by the Employer. These tests shall collectively comprise the Factory Acceptance Test (FAT) of the Transformer. The sequence of the tests shall be as recommended in IEC 60076-1:2011

- Routine Tests

- d) Appearance check and colour check, phase markers, CTs terminals identifications.
- e) Physical dimensions checks.
- f) Measurement of winding resistance (both LV and HV winding at all taps)
- g) Measurement of voltage ratio and check phase displacement (vector group) test
- h) Measurement of short circuit impedance and load loss
- i) Measurement of no-load loss and current at 90%, 100% and 110% of rated voltage
- j) Dielectric Routine tests
 - i. Full wave lightning impulse test (LI)
 - ii. Applied voltage test (AV)
 - iii. Induced voltage withstand test with PD measurement (IVPD)
 - iv. Auxiliary wiring insulation test (AuxW)
- k) Tests on on-load tap changers
- l) Leak testing with pressure for liquid-immersed transformers
- m) Check of ratio and polarity of built-in current transformers
- n) Check of core and frame insulation for liquid immersed transformers with core or frame insulation
- o) Measurement of dissolved gases in dielectric liquid from each separate oil compartment except diverter switch compartment
 - Additional Routine tests
- p) Determination of capacitance windings-to-earth and between windings
 - dd. Measurement of d.c. insulation resistance between each winding to earth and between windings

- Type Tests

- q) Temperature rise (heat run) test
- r) Measurement of sound pressure level
- s) Measurement of power taken by fans
 - Special Tests
- t) Winding hot-spot temperature-rise measurements
- u) Vacuum deflection test on liquid immersed transformers
- v) Pressure deflection test on liquid immersed transformers
- w) Measurement of frequency response (SFRA) HV with LV open, HV with LV shorted and LV and other measurements as per IEC 60076-18
- x) Lightning impulse test (LIN)
- y) Lightning impulse test (chopped wave) test (LIC)
- z) Line terminal AC Withstand voltage test (LTAC)
- aa) Measurement of power taken by fans
- bb) Functional test of devices (fans, Buchholz relay, pressure relief device, conservator oil level, etc.)
- cc) Capacitance test and dissipation factor (tan delta) test of bushings
- dd) Insulation resistance tests of the transformer's windings, core, tank and frame
- ee) Oil tests: dielectric strength, tan delta, moisture content, acidity, PCB content, DGA. The oil tests

shall be done four times: at the start of the fat, after high voltage tests, before and after heat run test.

- ff) The contractor shall furnish the client with the FAT program not less than 1 (one) month before the scheduled FAT. This program shall be approved by the client before any tests are carried out on the transformer. The program shall contain:
- i. Test procedures for each test
 - ii. Test sheets where results and comments shall be logged
 - iii. Calibration certificates for the test equipment and devices that shall be used to conduct the tests
- gg) The routine and type test results for the following accessories shall be sent to the client together with the FAT program mentioned above:
- Current transformers
 - Transformer Bushings
 - Transformer tank pressure test
 - fans, Buccholz relay, pressure relief device, conservator oil level
- hh) Three KenGen Engineers shall witness and carry out the FAT. KenGen shall cater for their accommodation and return air tickets to the nearest airport in the country of the Manufacturer. All other costs incurred during the witnessing and carrying out of the tests shall be covered by the Bidder, including meals, transport to and from the nearest airport, and local transport between factory and the hotel.
- ii) Visa application cost for the three Clients Engineers attending the FAT shall be at the clients cost.
- jj) The Bidder shall, in the FAT program furnished beforehand, state the number of days required to carry out all the tests in the factory. A minimum of **seven (7)** working days is anticipated to carry out the tests and compile the test report and sign off FAT meeting minutes. Tests shall be carried out between 8:00 a.m. and 5:00 p.m., except for tests like Temperature Rise and vacuum withstand which must go on till completion without interruption. The tests shall be arranged such that there shall be ample time (1 day) to go through and discuss the test results, compile the FAT meeting minutes and sign off by both clients and bidder's Engineers.
- kk) Test reports and certificates shall be issued after completion of factory tests but prior to departure from the factory by the KenGen Engineers.
- ll) The duly signed summary FAT report shall form part of the documents to be submitted to the bank for the release of payment via the Letter of Credit.

27. MANUFACTURING AND SHIPMENT

27.1 Quality Assurance Plan:

- a) The bidder shall invariably furnish along with his offer the quality assurance plan adopted by him/his sub-supplies in the process of manufacturing all major equipment/component.
- b) Precaution taken for ensuring usage of quality raw materials and sub-components shall be stated in the quality assurance plan.
- c) The bidder should specifically express their consent to accept additions, revisions to their quality assurance plan to meet the employer's requirements if needed. The final quality assurance plan to be adopted, with mutual consent, shall be decided after discussion with successful bidder.

27.2 Places of Manufacture and Sub-Contractors

- a) All equipment offered should be the product of recognized and experienced manufacturers who have been manufacturing specified equipment for the last twenty years. Equipment shall be of basic design and size similar to such that has been in successful continuous operation for at least three years preferably under similar climatic conditions. Proven plant reliability and high availability are of prime importance and the attention of the tenderer is drawn to these particular requirements.
- b) The manufacturer's identity and places of manufacture, testing and inspection before shipment for the various portions of the Contract Works shall be specified in the Technical Schedules and shall not be departed from without the agreement of the Project Engineer
- c) As soon as practicable after entering into the Contract, the Contractor shall, having obtained the Project Manager's consent in accordance with the Conditions of Contract, enter into the Sub- contracts he considers necessary for the satisfactory completion of the Contract Works.
- d) All Sub-contractors and Sub-suppliers of components and materials shall be subject to the approval of the Project Engineer. Information shall be given on each Suborder sufficient to identify the material or equipment to which the sub-order relates, stating that the material is subject to inspection by the Project Manager before dispatch.
- e) If the Employer at any stage in the design and production period finds out that the sub-contractor do not fulfil the requirements in the specifications and it is obvious that the required quality cannot be achieved by corrective measure he can request the subcontract to be suspended and the works to be produced elsewhere without extra cost for the Employer.

28. QUALITY ASSURANCE

The manufacturer processes should adhere to ISO 9001:2008 or higher, and all other relevant and related international standards.

29. TRANSPORTATION AND IMPACT RECORDING

The manufacturer shall install a vibration / shock recorder onto the transformer tank with a recording chart. In the three planes, X, Y & Z to last for the duration of transportation from the manufacturers site to final destination. The time will take care of duration of one month after the docking of the ship to Mombasa port to allow for clearances and transportation, by others to the final destination. The recorder will be analyzed and will become property of the bidder.

30. DOCUMENTS

The following documents shall be provided with your offer:

- i Copy of ISO certification
- ii References- These are the previous similar jobs carried out in the last 5 years. Rating of transformers and the tender amount. These previous experience shall be used as an evaluation criteria.
- iii Brochures etc. illustrating your transformer manufacturing process.
- iv. Test report from an independent accreditation body for a similar sized transformer.
- v. Copies of Type test reports & certificates based on IEC standards for each type of bushings, CT's, Transformer Gas (Bucchohz) Relay, Pressure Relief Device and On Load Tap Changer proposed to be used by the bidder to manufacture the transformer. Type test reports & certificates shall be certified by the National Standards and Testing Authority (NSTA) of the country of origin or by a third party Reputable Testing Authority. Where a body other than NSTA is used to certify the type-test reports, a copy of the certificate of accreditation shall be attached. Current contact information of the testing and certification authority shall be provided. Tenderers should note that this requirement is MANDATORY
- vi. Technical data sheets and catalogues of for major components proposed to be used by the bidder to manufacture the transformer. These include: HVN Bushing, HV Bushing, LV Bushing, Earthing Bushings, Current Transformers, Oil Conservator, Air Breather, Radiators, Radiator Fans, Gas Sampling Device, Moisture Acceptor, Rubber Capsule (Air Bag),

- Transformer Gas (Buccholz) Relay, Pressure Relief Device, Off Circuit Tap Changer, Transformer Oil Level Gauge, Transformer Winding Thermometer, Oil Temperature Thermometer, Digital Temperature Indicator, Miniature Circuit Breakers and Contactors
- v Mechanical and control diagrams of the transformer with list of names of the components and showing dimensional specifications of the transformer

The following documents shall be delivered by courier in **three hard and soft copies** to KenGen, at time of ***shipping***:

- d) Assembly, wiring & schematic drawings, (as built) Certified Test reports
- e) Technical Data sheets of all the components installed onto the transformer
- f) Detailed Installation / maintenance manuals for the transformer and tap changer.

31. INLAND TRANSPORTATION IN KENYA

The bidder shall transport the transformer and its accessories from the port of Mombasa to Kamburu Power Station after clearance of the cargo with the port's authority. The transporter must coordinate the arrival of the ship and availability of the modular low loader at the port for direct loading of the transformer. The transformer shall be loaded on a modular low-loader truck, properly secured on the low-loader trailer and delivered to the storage plinth at Kamburu Power Station. The bidder shall secure all the required highway clearances, permits and licenses from the relevant National and County Authorities (or bodies or agencies), for the transportation of the transformer from the port of Mombasa to Kamburu Power Station.

At Kamburu Power Station, the transformer will be parked on the storage plinth near the main gate to the station. At the time of installation, bidder shall move the transformer from the storage plinth to the service plinth and move the decommissioned transformer from the service plinth to the storage plinth. The two transformers shall be moved while fully assembled and with oil and as such, the transportation should consider the applicable weights. The total mass of the old transformer is 69,750 kg. The mass of the oil is 19,040 kg and has a volume of 22,000 litres. The oil level of the old transformer shall be lowered to just below the top cover of the main tank, and it will be dismantled by KenGen before its movement. The bidder or his agent, is expected to use electrically operated Hydraulic Power Pack lifting and push/pull jacks, staging beams, staging tools, rails and/or purpose build roller skit, Hiab, forklift, sliding rails, slings trucks. The following tools shall be REJECTED by KenGen, all costs to the bidder:

Use of manual jacks or cranes at site to lift the transformer, use of winches (locally known as "tougher").

As the outage may not be granted immediately upon arrival of the transformer at Kamburu, the bidder is encouraged to provision for the mobilization of the trucking equipment when the outage for installation of the transformer is granted. The cost of mobilization by the transporter to site should be part of the transportation cost included in the price schedule. KenGen shall NOT pay for the cost of mobilization to site.

Therefore the Bidder shall in the Price Schedule include a single item ***Inland Transport*** which will incorporate the following:

- Transportation of the transformer from the port of Mombasa to the storage plinth in Kamburu Power Station;
- Movement of the new transformer from the storage plinth to the service plinth;
- Movement of the old transformer from the service plinth to the storage plinth;
- Mobilization cost in the event that upon transportation of the transformer to Kamburu it cannot be immediately installed, necessitating the transporter to demobilize and then remobilize at a later period to install it.

KenGen shall supervise the offloading of the transformer from the ship unto to the low-loader truck, the fastening of the transformer, offloading at Kamburu Power Station and movement of transformers within the station at the time of the outage. Should the method to be used be considered unsafe on the transformer, KenGen reserves the right to STOP the bidder from continuing with the service until the methods are remedied to its satisfaction. No costs should be apportioned to KenGen as a result of exercising this right.

32. TRANSFORMER ASSEMBLY, TESTING & COMMISSIONING

The transformer shall be assembled, Oil filled, tested and commissioned. The manufacturer shall supervise the assembly, oil filling, transformer testing and commissioning at site. Labour shall be provided by KenGen while the bidder/manufacturer shall provide supervisors for the site works. The Bidder shall instruct KenGen on the oil treatment procedure as per the transformer's oil filling procedure. KenGen shall bear all costs of oil treatment.

Note that electrical protection of the transformer is not part of the scope of this project.

A minimum of the following commissioning tests shall be carried out by KenGen at its own cost and with its own test devices:

- ix. Transformer capacitance and dissipation factor
- x. Transformer turns ratio
- xi. Vector group
- xii. DC winding resistance
- xiii. Impedance Test
- xiv. Sweep Frequency Response Analysis (SFRA)
- xv. Current Transformer tests
- xvi. Oil analysis: Dissolved Gas Analysis, Breakdown voltage, oil moisture, acidity test, tan delta

Test details shall be provided to the winning Bidder. The manufacturer may propose additional tests to be done during the site works. These additional tests shall be agreed on between KenGen and the bidder/contractor at least a month before start of site works.

On successful completion of the tests and submission of the test report by the manufacturer, KenGen shall issue a completion certificate

The manufacturer shall submit a program for the Assembly, Oil filling, installation, testing and commissioning with the bid. Failure of which will result in the bid being declared none responsive. Installation, testing and commissioning shall be used as evaluation criteria based on the Unit Capacity and availability rates at the time of opening the tenders. This whole process is expected to be not more than 10 days.

The commissioning Engineer will meet all the expenses while in the client's country. However, KenGen, if prior request is made can make arrangements for Car hire, accommodation in its guest houses but all payable by the bidder.

33. COMMISSIONING EQUIPMENT

33.1 Breaker Testing Equipment

The tenderer shall supply the test equipment below together with the transformer. The equipment to be supplied is CIBANO 500 Advanced (Order code VE000901) together with the test software.

The features for the equipment are:

Commands for control of trip or close coils

Current per channel	Duty cycle
6 Aeff AC or DC	continuous
15 Aeff AC or DC	20 s on 80 s off
30 Aeff AC or DC	10 s on 190 s off
40 Aeff AC or 55 A DC	200 ms

Current / voltage output1 of integrated power supply

Source	Range	I _{max} , 30 s1	I _{max} , 2 h1
DC	0 ... ±300 V	27.5 A	12 A
DC	0 ... ±150 V	55 A	24 A
AC	0 ... 240 V	20 A	12 A
AC	0 ... 120 V	40 A	24 A

Power output of integrated power supply

Frequency	DC / 15 Hz ... 400 Hz		
Power	V _{mains}	P _{30s}	P _{2h}
	> 100 V	1500 W	1000 W
	> 190 V	3200 W	2400 W

Commands for motor supply

Current per channel	Duty cycle
24 Aeff AC or DC	continuous
40 Aeff AC or DC	20 s on 80 s off
55 A DC	10 s on 190 s off

Voltage input from station battery (CAT III)

Source	Range	Accuracy3
DC	0 ... 420 V	0.5 % rd + 0.5 % fs
AC	0 ... 300 V	0.5 % rd + 0.5 % fs

Inputs for auxiliary contacts (CAT III)

Auxiliary input type	Toggling with potential-free (dry) contacts or voltages (wet) up to 300 V DC
Maximum sample rate	40 kHz
Minimum resolution	25 µs

Mains supply

Voltage	Nominal: 100 V ... 240 V AC Permitted: 85 V ... 264 V AC
Current	Nominal: 16 A
Frequency	Nominal: 50 Hz / 60 Hz Permitted: 45 Hz ... 65 Hz
Power fuse	Automatic circuit breaker with magnetic overcurrent tripping at I > 16 A
Power consumption	Continuous: < 3.5 kW Peak: < 5.0 kW

Voltage measurements (CAT III)

Source	Range	Accuracy
DC	0 ... 300 V	0.1 % rd + 0.05 % fs
AC	0 ... 300 V	0.03 % rd + 0.01 % fs
DC	0 ... 3 V	0.1 % rd + 0.05 % fs
DC	0 ... 300 mV	0.1 % rd + 0.1 % fs
DC	0 ... 30 mV	0.1 % rd + 0.1 % fs

Current measurements

Source	Range	Accuracy ³
DC	0 ... 55 A	0.1 % rd + 0.2 % fs
AC	0 ... 40 A	0.1 % rd + 0.1 % fs

Resistance measurements

Range	Voltage range	Injected current	Accuracy
0.1 $\mu\Omega$... 300 $\mu\Omega$	30 mV	100 A	0.2 % rd + 0.1 $\mu\Omega$
0.5 $\mu\Omega$... 3 m Ω	300 mV	100 A	0.2 % rd + 0.5 $\mu\Omega$
5 $\mu\Omega$... 30 m Ω	3 V	100 A	0.2 % rd + 5 $\mu\Omega$
50 $\mu\Omega$... 300 m Ω	3 V	10 A	0.2 % rd + 50 $\mu\Omega$

The features for the accessories are as per contained in the manufacturer's manual for the CIBANO 500 ADVANCED OPTION. These accessories include:

1. CB MC2
2. EtherCAT® MODULE
3. TEST SOFTWARE - LICENSED

Nothing LESS shall be accepted.

34. SPARES:

No.	Description	QTY	UOM
1.	Fan + Motor set, complete	1	PC
2.	HV Phase 145 kV Bushing, complete with termination clamp	3	PC
3.	52 kV HV Neutral Bushing, complete with termination clamp	2	PC
4.	24kV, 3000A LV Bushing, complete with termination copper flexes	3	PC
5.	Winding/Oil Temperature Thermometer, complete with Capillary and Bulb	2	PC
6.	Bucchohz Relay	1	PC
7.	Pressure Relief Device	1	PC
8.	Conservator Rubber Bellow (Air Cell)	1	PC
9.	Oil Valves (one of each type and size)		LOT
10	Transformer Oil (3,000 litres)	3000	L

All the spares must be itemized and quoted for separately. However, the client has the right to buy all or part of the listed and individually priced spares. The price shall remain the same irrespective of the number purchased.

35. ISSUANCE OF COMPLETION CERTIFICATE

The Manufacturer, on successful completion of manufacture of the transformer, shall send the shipping details of the transformer including the No. of packages, volumes, weight, and dimension to enable the client to organize for transportation of the goods from port of Mombasa to site. These details should be availed at least a month (four weeks) prior to shipment.

36. TECHNICAL SCHEDULE

The tenderer shall fill the technical schedule to outline the specifications of the offered transformer against the specifications outlined in clauses 1 to 23 above. Any deviation of his offer must also be indicated in the table. ***The table filling is mandatory and any bid with unfilled evaluation table below shall be considered as none responsive.***

Clause No	Technical Specifications	Bidder's Offer (Compliance)	Reference in the bidder's Document, Deviations
1	Scope:		
1.1	Design, manufacture, factory testing and supply (CFR Mombasa) of 1 no. 3-phase, 40MVA, 11/132kV, 50Hz, YNd1, ONAN/ONAF, OLTC, transformers inclusive supervision for site assembly and commissioning supervision		
1.2	Design Review Meeting for 3 engineers at Manufacturer's factory		
1.3	Factory training for two KenGen engineers for 5 days held at the factory premises		
1.4	Factory Acceptance Tests at the manufacturer's factory premises witnessed by two KenGen Engineers following the training		
1.5	Supervision of Assembly, Oil filling, testing, and commissioning of the transformer on site		
1.6	Commissioning Test Equipment as per attached specifications		
1.7	Supply of spares as per the list given in this tender		
2.	Operating Conditions:		
2.1.1	Altitude: 1000m ASL		
2.1.2	Humidity: 70 %		
2.1.3	Ambient Temperature: 300C, average		
2.1.4	Transformer to withstand Load Rejection as per IEC 60076		
2.1.5	Existing Fault Level is 2818MVA		
3.1	International Standards IEC 60076, IEC 60137		
3.2	ONAN/ONAF cooling type		
3.3	Conservator with oil resistant, long-life rubber for air cell		
3.4	Two earthing terminals located diagonally		
3.5	The transformer shall have suitably located air release valves or plugs where required as per IEC 60076-1		
3.9	The transformer shall fit on the existing plinth whose dimensions are given in this tender.		
4	Ratings		

Clause No	Technical Specifications	Bidder's Offer (Compliance)	Reference in the bidder's Document, Deviations
4.1	The rating of the transformer shall be 40MVA, 11/132Kv, 3Ph, OLTC, 50Hz, YNd1, ONAN/ONAF, oil immersed Generator Step-Up Transformer		
4.2	The rating at the two cooling types shall be: 33.7MVA for ONAN and 40MVA for ONAF.		
4.3	The transformer shall have a Star/Delta configuration according to Vector reference YNd1, with Star connection on the HV winding and Delta configuration on LV winding		
5	Connections		
5.1.1	Outdoor LV connections with vertical orientation		
5.1.2	Supply of suitably rated copper flexes and clamps		
5.1.3	Non-metallic phase identification plants		
5.2.2	HV bushings shall have clamps to adapt to		
5.2.3	Non-metallic phase identification plants		
6	Tap-changer		
6.1	On-load tap changer shall comply with IEC 60214-1 & IEC 600076-7		
6.2	OLTC with tap positions as per table in Technical Specifications		
6.3	On Load Tap Changer (OLTC) from MR Germany (attach Manufacturer certificate).		
6.4	Tap position is clearly visible from the ground		
6.6	Provision of a remote tap changer indication at Control room and required cable and cabling accessories from Transformer MK to the tap position indicator. Control room		
6.8	Provision of BCD code of tap position for connection to client SCADA		
6.10	Provision of voltage-free contacts as per list in technical specifications		
7	Core and Flux Density		
7.1	Magnetic Circuit is low loss, cold rolled, grain oriented high-grade steel. The flux density shall not exceed 1.65 Tesla.		
8	Losses, Regulation, and Impedance		
8.1	Transformer losses subject to tolerances as per IEC 60076		
8.2	Impedance Voltage at nominal tap shall not exceed 12.96%.		
8.3	Guaranteed No-Load (iron) Losses		
	Guaranteed Copper losses		
	Guaranteed Full load losses		
9	Transformer Winding		
9.2	LV winding shall be single layer helical design while HV main winding shall be disc partly interleaved design		

Clause No	Technical Specifications	Bidder's Offer (Compliance)	Reference in the bidder's Document, Deviations
9.3	Transformer winding is high conductivity grade copper.		
9.4	Winding insulation is high grade Kraft paper.		
9.7	LV and HV windings brought out through the bushings		
10	BUSHINGS, CURRENT TRANSFORMERS AND TERMINATIONS		
10.1	OIP condenser type bushing with a minimum rating of 145kV, 800Amp, 650kV B.I.L, 275kV AC withstand, fitted with protective spark gaps, outdoor type, with a test point, for Tan D, prismatic oil level gauge, venting plug on the turret, silver plated spindle and creepage distance of 25mm/kV as specified		
10.2	The HVN bushing shall be rated at 52KV, 800A, 250kV B.I.L and 95kV AC withstand, outdoor type mounted on the transformer top cover with test point and oil level gauge, venting plug and clamp as specified. Creepage distance of 25mm/kV as specified		
10.3	The LV bushings shall be rated 24kV, 3000Amp, 125kV B.I.L, 70kV AC withstand, with a silver-plated spindle, a venting plug, and creepage distance of 25mm/kV. Supply of Copper flexes rated to carry 5000Amp per phase		
10.4	Neutral CT as per table under clause 9.8.1		
10.5	HV bushing CTs as per table under clause 9.9.1		
10.6	LV bushing CTs as per table in the specifications		
10.6.3	CT secondary terminals shall be appropriately marked, wired and both terminals brought out and terminated at the marshalling kiosk TB		
10.7	CTs shall comply to IEC 61869 standard		
11	Minimum clearances as per IEC 60076-3 standard.		
12	Cooling System		
12.1	Transformer shall have ONAN and ONAF cooling systems		
12.3	Radiator banks with 130% cooling capacity.		
12.4	Submission of calculations on cooling capacity of the radiators.		
12.6	Radiators shall have appropriate oil isolating valves that are capable of withstanding a vacuum		
12.2	Signals provided shall be as listed in the technical specifications		
13	Auxiliary Supplies		
13.1	The cooler control circuits shall be supplied with 240Volts, single phase, and 50Hz AC		
13.2	The Fan and pump motors shall be supplied with 415 Volts, 3 Phase, 50Hz AC supply.		

Clause No	Technical Specifications	Bidder's Offer (Compliance)	Reference in the bidder's Document, Deviations
13.3	Other Protection & Control circuits shall be supplied with 110 Volts dc.		
13.4	The marshalling kiosk shall have a single phase 13A, 240VAC British Standard socket outlet and a three-phase (415VAC) industrial socket switched by a 32A rated miniature circuit breaker (MCB).		
14	Transformer Tank		
14.1	The tank shall be constructed of mild steel plates, complete with all accessories, with suitable jacking and lifting pads,		
14.4	The main tank body shall be pressure tested so as to ascertain the soundness of all welded joints.		
14.5	Tank top cover shall be of such a design and construction as to prevent accumulation of water.		
14.9	The tank cover shall be fitted with oil filled pockets for installation of the bulbs of the various temperature indicators.		
14.10	Gaskets for weather and oil-tight joint faces shall be Nebar® Brown gasket and cork composition conforming to Specification Ref: ASTM F104-93 93 or equivalent		
14.11	The transformer tank and all oil-bearing accessories including bushings, radiators, pipes, valves, pumps etc. assembled there on shall be capable of withstanding full vacuum.		
15.	Cleaning and painting as per clause 15		
16.	Conservator, protection & Indicators		
16.1	Conservator with long life oil resistant rubber bellow (air cell), oil level gauge, prismatic sight glass, isolating valves that can withstand full vacuum, oil level contacts wire to the marshalling kiosk		
16.1.7	Conservator with lifting lugs, dehydrating breather, inspection covers etc.		
16.2	Gas and Oil Actuated Relay		
	Transformer shall be provided with a gas and oil actuated relay of double float type (Buchholz relay) with alarm and tripping contacts		
16.3	Pressure relief device		
	Transformer shall have a self-latching, spring-actuated pressure relief device, which shall be capable of withstanding full vacuum		
16.4	Oil & Winding Temperature Indicators		
16.4.1	transformer shall be provided with three dial type temperature indicators, one for oil and two for winding temperatures		

Clause No	Technical Specifications	Bidder's Offer (Compliance)	Reference in the bidder's Document, Deviations
16.4.2	Provide 4 contacts for each mercury thermometer whose magnetic switches with settings as indicated in the technical specifications		
16.4.5	provide spares two mercury thermometers for spares		
16.4.9	provide two (2) RTDs for LV winding indication of Red and one (1) RTD for Oil temperature indication		
16.4.	Provide analogue signals of 4 ~20mA for indication of each RTD temperatures		
17	Accessibility and Inspection		
17.1	Top and bottom valves fitted with blank flanges located on opposite sides of the transformer tank, for oil filtration purposes		
17.2	Bottom valve located at the lowest point of the Transformer tank to enable draining of oil from the transformer tank.		
17.6	Oil sampling provision shall be appropriately located near the ground level to obtain sample of transformer oil from the top and bottom of the		
17.7	Ladder, with barrier, for easy access to tank top and an access to the top of the conservator from the top of the tank cover shall be provided.		
	Transformer Oil		
18.1	The transformer and all associated oil immersed equipment shall be complete with mineral oil complying with the requirement of IEC 60296.		
18.2	Oil in adequate quantities for filling of the transformer tank and accessories after assembly, will be supplied in one big steel tank together with the 3000ltrs spare oil		
19	Marshalling kiosk		
	Marshalling kiosk for the TX. No devices shall be mounted on the doors.		
20	Transportation		
20.1	The transformer main tank, core, windings, and any attached accessories shall be transported filled with dry nitrogen gas maintained at a positive pressure (0.04bar) of moisture content of not more than 5ppm		
20.4	The manufacturer shall supply, install and activate a disturbance and shock recorder to record any impact on the transformer during shipment. The recorder shall remain the property of KenGen. The battery shall be as to last the transportation period and one month more to give time for data retrieval		
28	Commissioning Equipment		

Clause No	Technical Specifications	Bidder's Offer (Compliance)	Reference in the bidder's Document, Deviations
28.1	CIBANO 500 Advanced Option		

37. Drawings

This Tendering document includes..... *[insert“ the following” or “no”]*
drawings. *[If documents shall be included, insert the following List of Drawings].*

List of Drawings		
Drawing No.	Drawing Name	Purpose

38. INSPECTIONS AND TESTS

The following inspections and tests shall be performed:..... *[insert list of inspections and tests]*

PART 3 - CONDITIONS OF CONTRACT AND CONTRACT FORMS

SECTION VI - GENERAL CONDITIONS OF CONTRACT

1. Definitions

In the Conditions of Contract (“these Conditions”), which include Special Conditions, Parts A and B, and these General Conditions, the following words and expressions shall have the meanings stated. Words indicating persons or parties include corporations and other legal entities, except where the context requires otherwise.

- a) “Contract” means the Contract Agreement entered into between the Procuring Entity and the Supplier, together with the Contract Documents referred to therein, including all attachments, appendices, and all documents incorporated by reference therein.
- b) “Contract Documents” means the documents listed in the Contract Agreement, including any amendments thereto.
- c) “Contract Price” means the price payable to the Supplier as specified in the Contract Agreement, subject to such additions and adjustments thereto or deductions therefrom, as may be made pursuant to the Contract.
- d) “Day” means calendar day.
- e) “Completion” means the fulfilment of the Related Services by the Supplier in accordance with the terms and conditions set forth in the Contract.
- f) “GCC” means the General Conditions of Contract.
- g) “Goods” means all of the commodities, raw material, machinery and equipment, and/or other materials that the Supplier is required to supply to the Procuring Entity under the Contract.
- h) “Procuring Entity” means the Procuring Entity purchasing the Goods and Related Services, as **specified in the SCC**.
- i) “Related Services” means the services incidental to the supply of the goods, such as insurance, delivery, installation, commissioning, training and initial maintenance and other such obligations of the Supplier under the Contract.
- j) “SCC” means the Special Conditions of Contract.
- k) “Subcontractor” means any person, private or government entity, or a combination of the above, to whom any part of the Goods to be supplied or execution of any part of the Related Services is subcontracted by the Supplier.
- l) “Supplier” means the person, private or government entity, or a combination of the above, whose Tender to perform the Contract has been accepted by the Procuring Entity and is named as such in the Contract Agreement.
- m) “**Base Date**” means a date 30 day prior to the submission of tenders.
- n) “**Laws**” means all national legislation, statutes, ordinances, and regulations and by-laws of any legally constituted public authority.
- o) “**Letter of Acceptance**” means the letter of formal acceptance, signed by the contractor. Procuring Entity, including any annexed memoranda comprising agreements between and signed by both Parties.
- p) “**Procuring Entity**” means the Entity named in the Special Conditions of Contract.

2. Interpretation

2.1. If the context so requires it, singular means plural and vice versa.

2.2. Incoterms

- a) Unless inconsistent with any provision of the Contract, the meaning of any trade term and the rights and obligations of parties thereunder shall be as prescribed by Incoterms **specified in the SCC**.

- b) The terms EXW and CIP and other similar terms, when used, shall be governed by the rules prescribed in the current edition of Incoterms specified in the **SCC** and published by the International Chamber of Commerce in Paris, France.

3. Contract Documents

Subject to the order of precedence set forth in the Contract Agreement, all documents forming the Contract (and all parts thereof) are intended to be correlative, complementary, and mutually explanatory. The Contract Agreement shall be read as a whole. The documents forming the Contract shall be interpreted in the following order of priority:

- a) the Contract Agreement,
- b) the Letter of Acceptance,
- c) the General Conditions of Contract
- d) Special Conditions of Contract
- e) the Form of Tender,
- f) the Specifications and Schedules of the Drawings (if any), and
- g) the Schedules of Requirements, Price Schedule and any other documents forming part of the Contract.

4. Fraud and Corruption

- 3.1 The supplier shall comply with anti-corruption laws and guidelines and the prevailing sanctions, policies and procedures as set forth in the Laws of Kenya.
- 3.2 The Supplier shall disclose any commissions, gratuity or fees that may have been paid or are to be paid to agents or any other person with respect to the Tendering process or execution of the Contract. The information disclosed must include at least the name and address of the agent or other party, the amount and currency, and the purpose of the commission, gratuity or fee.

4.1 Entire Agreement

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

4.2 Amendment

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

4.3 Non-waiver

- a) Subject to GCC Sub-Clause 4.5(b) below, no relaxation, forbearance, delay, or indulgence by either party in enforcing any of the terms and conditions of the Contract or the granting of time by either party to the other shall prejudice, affect, or restrict the rights of that party under the Contract, neither shall any waiver by either party of any breach of Contract operate as waiver of any subsequent or continuing breach of Contract.
- b) Any waiver of a party's rights, powers, or remedies under the Contract must be in writing, dated, and signed by an authorized representative of the party granting such waiver, and must specify the right and the extent to which it is being waived.

4.4 Severability

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

5. Language

- 5.1 The Contract as well as all correspondence and documents relating to the Contract exchanged by the Supplier and the Procuring Entity, shall be written in the **English Language**. Supporting documents and printed literature that are part of the Contract may be in another language provided they are accompanied by an accurate and certified translation of the relevant passages in the **English Language**, in which case, for purposes of interpretation of the Contract, the English language is

translation shall govern.

- 52 The Supplier shall bear all costs of translation to the governing language and all risks of the accuracy of such translation, for documents provided by the Supplier.

6. Joint Venture, Consortium or Association

- 6.1 If the Supplier is a joint venture, consortium, or association, all of the parties shall be jointly and severally liable to the Procuring Entity for the fulfilment of the provisions of the Contract and shall designate one member of the joint venture, consortium, or association to act as a leader with authority to bind the joint venture, consortium, or association. The composition or the constitution of the joint venture, consortium, or association shall not be altered without the prior written consent of the Procuring Entity.

7. Eligibility

- 7.1 The Supplier and its Subcontractors shall have the nationality of an eligible country. A Supplier or Sub-contractor shall be deemed to have the nationality of a country if it is a citizen or constituted, incorporated, or registered, and operates in conformity with the provisions of the laws of that country.
- 7.2 All Goods and Related Services to be supplied under the Contract shall have their origin in Eligible Countries. For the purpose of this Clause, origin means the country where the goods have been grown, mined, cultivated, produced, manufactured, or processed; or through manufacture, processing, or assembly, another commercially recognized article results that differs substantially in its basic characteristics from its components.
- 7.3 The Tenderer, if a Kenyan firm, must submit with its tender a valid tax compliance certificate from the Kenya Revenue Authority.

8. Notices

- 8.1 Any notice given by one party to the other pursuant to the Contract shall be in writing to the address specified in the SCC. The term "in writing" means communicated in written form with proof of receipt.
- 8.2 A notice shall be effective when delivered or on the notice's effective date, whichever is later.

9. Governing Law

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

10. Settlement of Disputes

- 10.1 The Procuring Entity and the Supplier shall make every effort to resolve amicably by direct negotiation any disagreement or dispute arising between them under or in connection with the Contract.
- 10.2 If, after thirty (30) days, the parties have failed to resolve their dispute or difference by such mutual consultation, then either the Procuring Entity or the Supplier may give notice to the other party of its intention to commence arbitration, as hereinafter provided, as to the matter in dispute, and no arbitration in respect of this matter may be commenced unless such notice is given. Any dispute or difference in respect of which a notice of intention to commence arbitration has been given in accordance with this Clause shall be finally settled by arbitration. Arbitration may be commenced prior to or after delivery of the Goods under the Contract.

10.2 Arbitration proceedings shall be conducted as follows:

- 10.21 Any claim or dispute between the Parties arising out of or in connection with the Contract not settled amicably in accordance with Sub-Clause 10.1 shall be finally settled by arbitration.
- 10.22 No arbitration proceedings shall be commenced on any claim or dispute where notice of a claim or

dispute has not been given by the applying party within thirty days of the occurrence or discovery of the matter or issue giving rise to the dispute.

1023 Notwithstanding the issue of a notice as stated above, the arbitration of such a claim or dispute shall not commence unless an attempt has in the first instance been made by the parties to settle such claim or dispute amicably with or without the assistance of third parties. Proof of such attempt shall be required.

1024 The Arbitrator shall, without prejudice to the generality of his powers, have powers to direct such measurements, computations, or valuations as may in his opinion be desirable in order to determine the rights of the parties and assess and award any sums which ought to have been the subject of or included in any due payments.

1025 Neither Party shall be limited in the proceedings before the arbitrators to the evidence, or to the reasons for the dispute given in its notice of a claim or dispute.

1026 Arbitration may be commenced prior to or after delivery of the goods. The obligations of the Parties shall not be altered by reason of any arbitration being conducted during the progress of the delivery of goods.

1027 The terms of the remuneration of each or all the members of Arbitration shall be mutually agreed upon by the Parties when agreeing the terms of appointment. Each Party shall be responsible for paying one-half of this remuneration.

103 Arbitration Proceedings

1031 Arbitration proceedings with national suppliers will be conducted in accordance with the Arbitration Laws of Kenya. In case of any claim or dispute, such claim or dispute shall be notified in writing by either party to the other with a request to submit it to arbitration and to concur in the appointment of an Arbitrator within thirty days of the notice. The dispute shall be referred to the arbitration and final decision of a person or persons to be agreed between the parties. Failing agreement to concur in the appointment of an Arbitrator, the Arbitrator shall be appointed, on the request of the applying party, by the Chairman or Vice Chairman of any of the following professional institutions;

- i) Kenya National Chamber of Commerce
- ii) Chartered Institute of Arbitrators (Kenya Branch)
- iii) The Law Society of Kenya

1032 The institution written to first by the aggrieved party shall take precedence over all other institutions.

1033 Alternative Arbitration Proceedings

Alternatively, the Parties may refer the matter to the Nairobi Centre for International Arbitration (NCIA) which offers a neutral venue for the conduct of national and international arbitration with commitment to providing institutional support to the arbitral process.

104 Arbitration with Foreign Suppliers

1041 Arbitration with foreign suppliers shall be conducted in accordance with the arbitration rules of the United Nations Commission on International Trade Law (UNCITRAL); or with proceedings administered by the International Chamber of Commerce (ICC) and conducted under the ICC Rules of Arbitration; by one or more arbitrators appointed in accordance with said arbitration rules.

1042 The place of arbitration shall be a location specified in the **SCC**; and the arbitration shall be conducted in the language for communications defined in Sub-Clause 1.4 [Law and Language].

105 Alternative Arbitration Proceedings

Alternatively, the Parties may refer the matter to the Nairobi Centre for International Arbitration (NCIA) which offers a neutral venue for the conduct of national and international arbitration with commitment to providing institutional support to the arbitral process.

106 Failure to Comply with Arbitrator's Decision

1061 The award of such Arbitrator shall be final and binding upon the parties.

10.6.1 In the event that a Party fails to comply with a final and binding Arbitrator's decision, then the other Party may, without prejudice to any other rights it may have, refer the matter to a competent court of law.

107 Contract operations continue

Notwithstanding any reference to arbitration herein,

- a) the parties shall continue to perform their respective obligations under the Contract unless they otherwise agree; and
- b) the Procuring Entity shall pay the Supplier any monies due the Supplier.

11. Inspections and Audit by the Procuring Entity

- 11.1 The Supplier shall keep, and shall cause its Subcontractors to keep, accurate and systematic accounts and records in respect of the Goods in such form and details as will clearly identify relevant time, changes and costs.
- 11.2 Pursuant to paragraph 2.2 of Instruction to Tenderers, the Supplier shall permit and shall cause its subcontractors to permit, the Procuring Entity and/or persons appointed by the Procuring Entity or by other statutory bodies of the Government to inspect the Site and/or the accounts and records relating to the procurement process, selection and/or contract execution, and to have such accounts and records audited by auditors appointed by the Procuring Entity. The Supplier's and its Subcontractors' attention is drawn to Sub- Clause 3.1 which provides, inter alia, that acts intended to materially impede the exercise of the Procuring Entity's inspection and audit rights constitute a prohibited practice subject to contract termination, as well as to a determination of ineligibility.

12. Scope of Supply

12.1 The Goods and Related Services to be supplied shall be as specified in the Schedule of Requirements.

13. Delivery and Documents

- 13.1 Subject to GCC Sub-Clause 33.1, the delivery of the Goods and completion of the Related Services shall be in accordance with the List of Goods and Delivery Schedule specified in the Supply Requirements. The details of shipping and other documents to be furnished by the Supplier are specified in the SCC.

14. Supplier's Responsibilities

- 14.1 The Supplier shall supply all the Goods and Related Services included in the Scope of Supply in accordance with GCC Clause 12, and the Delivery and Completion Schedule, as per GCC Clause 13.

15. Contract Price

- 15.1 Prices charged by the Supplier for the Goods supplied and the Related Services performed under the Contract shall not vary from the prices quoted by the Supplier in its Tender, with the exception of any price adjustments authorized in the SCC.

- 15.2 Where the contract price is different from the corrected tender price, in order to ensure the supplier is not paid less or more relative to the contract price (*which would be the tender price*), any partial payment valuation based on rates in the schedule of prices in the Tender, will be adjusted by a plus or minus percentage. The percentage already worked out during tender evaluation is worked out as follows: *(corrected tender price – tender price)/tender price X 100*.

16. Terms of Payment

- 16.1 The Supplier shall request for payment by submitting invoice(s), delivery note(s) and any other relevant documents as specified in the SCC to the Procuring Entity.
- 16.2 Payments shall be made promptly by the Procuring Entity, but not later than thirty (30) days after submission of an invoice by the Supplier, and after the Procuring Entity has accepted it.
- 16.3 Where a Procuring Entity rejects Goods and Related Services, in part or wholly, the procuring Entity shall promptly inform the Supplier to collect, replace or rectify as appropriate and give reasons for rejection. The Supplier shall submit a fresh invoice, delivery note and any other relevant documents as specified in the SCC.
- 16.4 The currencies in which payments shall be made to the Supplier under this Contract shall be those in which the Tender price is expressed.

165 In the event that the Procuring Entity fails to pay the Supplier any payment by its due date or within the period set forth in the **SCC**, the Procuring Entity may pay to the Supplier interest on the amount of such delayed payment at the rate shown in the **SCC**, for the period of delay until payment has been made in full, whether before or after judgment or arbitration award.

17. Taxes and Duties

17.1 The Supplier shall be entirely responsible for all taxes, duties, license fees, and other such levies incurred to deliver the Goods and Related Services to the Procuring Entity at the final delivery point.

17.3 If any tax exemptions, reductions, allowances or privileges may be available to the Supplier in Kenya, the Supplier shall inform the Procuring Entity and the Procuring Entity shall use its best efforts to enable the Supplier to benefit from any such tax savings to the maximum allowable extent.

18. Performance Security

18.1 If required as specified in the **SCC**, the Supplier shall, within twenty-eight (28) days of the notification of contract award, provide a performance security for the performance of the Contract in the amount specified in the **SCC**.

18.2 The proceeds of the Performance Security shall be payable to the Procuring Entity as compensation for any loss resulting from the Supplier's failure to complete its obligations under the Contract.

18.3 As specified in **the SCC**, the Performance Security, if required, shall be denominated in the currency(ies) of the Contract, or in a freely convertible currency acceptable to the Procuring Entity; and shall be in one of the formats stipulated by the Procuring Entity in **the SCC**, or in another format acceptable to the Procuring Entity.

18.4 The Performance Security shall be discharged by the Procuring Entity and returned to the Supplier not later than thirty (30) days following the date of Completion of the Supplier's performance obligations under the Contract, including any warranty obligations, unless specified otherwise in the **SCC**.

19. Copyright

19.1 The copyright in all drawings, documents, and other materials containing data and information furnished to the Procuring Entity by the Supplier herein shall remain vested in the Supplier, or, if they are furnished to the Procuring Entity directly or through the Supplier by any third party, including suppliers of materials, the copyright in such materials shall remain vested in such third party.

20. Confidential Information

20.1 The Procuring Entity and the Supplier shall keep confidential and shall not, without the written consent of the other party hereto, divulge to any third party any documents, data, or other information furnished directly or indirectly by the other party hereto in connection with the Contract, whether such information has been furnished prior to, during or following completion or termination of the Contract. Notwithstanding the above, the Supplier may furnish to its Sub-Supplier such documents, data, and other information it receives from the Procuring Entity to the extent required for the Sub Supplier to perform its work under the Contract, in which event the Supplier shall obtain from such Sub Supplier undertaking of confidentiality similar to that imposed on the Supplier under GCC Clause 20.

20.2 The Procuring Entity shall not use such documents, data, and other information received from the Supplier for any purposes unrelated to the contract. Similarly, the Supplier shall not use such documents, data, and other information received from the Procuring Entity for any purpose other than the performance of the Contract.

20.3 The obligation of a party under GCC Sub-Clauses 20.1 and 20.2 above, however, shall not apply to information that:

- a) the Procuring Entity or Supplier need to share with other arms of Government or other bodies participating in the financing of the Contract; such parties shall be disclosed in **the SCC**;

- b) now or hereafter enters the public domain through no fault of that party;
 - c) can be proven to have been possessed by that party at the time of disclosure and which was not previously obtained, directly or indirectly, from the other party; or
 - d) otherwise lawfully becomes available to that party from a third party that has no obligation of confidentiality.
- 20.4 The above provisions of GCC Clause 20 shall not in any way modify any undertaking of confidentiality given by either of the parties hereto prior to the date of the Contract in respect of the Supply or any part thereof.
- 20.5 The provisions of GCC Clause 20 shall survive completion or termination, for whatever reason, of the Contract.

21. Subcontracting

- 21.1 The Supplier shall notify the Procuring Entity in writing of all subcontracts awarded under the Contract if not already specified in the Tender. Such notification, in the original Tender or later shall not relieve the Supplier from any of its obligations, duties, responsibilities, or liability under the Contract.
- 21.2 Subcontracts shall comply with the provisions of GCC Clauses 3 and 7.

22. Specifications and Standards

22.1 Technical Specifications and Drawings

- a) The Goods and Related Services supplied under this Contract shall conform to the technical specifications and standards mentioned in Section VI, Schedule of Requirements and, when no applicable standard is mentioned, the standard shall be equivalent or superior to the official standards whose application is appropriate to the Goods' country of origin.
- b) The Supplier shall be entitled to disclaim responsibility for any design, data, drawing, specification or other document, or any modification thereof provided or designed by or on behalf of the Procuring Entity, by giving a notice of such disclaimer to the Procuring Entity.
- c) Wherever references are made in the Contract to codes and standards in accordance with which it shall be executed, the edition or the revised version of such codes and standards shall be those specified in the Schedule of Requirements. During Contract execution, any changes in any such codes and standards shall be applied only after approval by the Procuring Entity and shall be treated in accordance with GCC Clause 33.

23. Packing and Documents

- 23.1 The Supplier shall provide such packing of the Goods as is required to prevent their damage or deterioration during transit to their final destination, as indicated in the Contract. During transit, the packing shall be sufficient to withstand, without limitation, rough handling and exposure to extreme temperatures, salt and precipitation, and open storage. Packing case size and weights shall take into consideration, where appropriate, the remoteness of the goods' final destination and the absence of heavy handling facilities at all points in transit.
- 23.2 The packing, marking, and documentation within and outside the packages shall comply strictly with such special requirements as shall be expressly provided for in the Contract, including additional requirements, if any, specified in the SCC, and in any other instructions ordered by the Procuring Entity.

24. Insurance

- 24.1 Unless otherwise specified in the SCC, the Goods supplied under the Contract shall be fully insured—in a freely convertible currency from an eligible country—against loss or damage incidental to manufacture or acquisition, transportation, storage, and delivery, in accordance with the applicable Incoterms or in the manner specified in the SCC.

25. Transportation and Incidental Services

- 25.1 Unless otherwise specified in the **SCC**, responsibility for arranging transportation of the Goods shall be in accordance with the specified Incoterms.
- 25.2** The Supplier may be required to provide any or all of the following services, including additional services, if any, specified in **SCC**:
- a) performance or supervision of on-site assembly and/or start-up of the supplied Goods;
 - b) furnishing of tools required for assembly and/or maintenance of the supplied Goods;
 - c) furnishing of a detailed operations and maintenance manual for each appropriate unit of the supplied Goods;
 - d) performance or supervision or maintenance and/or repair of the supplied Goods, for a period of time agreed by the parties, provided that this service shall not relieve the Supplier of any warranty obligations under this Contract; and
 - e) training of the Procuring Entity's personnel, at the Supplier's plant and/or on-site, in assembly, start-up, operation, maintenance, and/or repair of the supplied Goods.
- 25.3 Prices charged by the Supplier for incidental services, if not included in the Contract Price for the Goods, shall be agreed upon in advance by the parties and shall not exceed the prevailing rates charged to other parties by the Supplier for similar services

26. Inspections and Tests

- 26.1** The Supplier shall at its own expense and at no cost to the Procuring Entity carry out all such tests and/or inspections of the Goods and Related Services as are specified in the **SCC**.
- 26.2 The inspections and tests may be conducted on the premises of the Supplier or its Subcontractor, at point of delivery, and/or at the Goods' final destination, or in another place in Kenya as specified in the **SCC**. Subject to GCC Sub-Clause 26.3, if conducted on the premises of the Supplier or its Subcontractor, all reasonable facilities and assistance, including access to drawings and production data, shall be furnished to the inspectors at no charge to the Procuring Entity.
- 26.3 The Procuring Entity or its designated representative shall be entitled to attend the tests and/or inspections referred to in GCC Sub-Clause 26.2, provided that the Procuring Entity bear all of its own costs and expenses incurred in connection with such attendance including, but not limited to, all travelling and board and lodging expenses.
- 26.4 Whenever the Supplier is ready to carry out any such test and inspection, it shall give a reasonable advance notice, including the place and time, to the Procuring Entity. The Supplier shall obtain from any relevant third party or manufacturer any necessary permission or consent to enable the Procuring Entity or its designated representative to attend the test and/or inspection.
- 26.5 The Procuring Entity may require the Supplier to carry out any test and/or inspection not required by the Contract but deemed necessary to verify that the characteristics and performance of the Goods comply with the technical specifications codes and standards under the Contract, provided that the Supplier's reasonable costs and expenses incurred in the carrying out of such test and/or inspection shall be added to the Contract Price. Further, if such test and/or inspection impedes the progress of manufacturing and/or the Supplier's performance of its other obligations under the Contract, due allowance will be made in respect of the Delivery Dates and Completion Dates and the other obligations so affected.
- 26.6 The Supplier shall provide the Procuring Entity with a report of the results of any such test and/or inspection.
- 26.7 The Procuring Entity may reject any Goods or any part thereof that fail to pass any test and/or inspection or do not conform to the specifications. The Supplier shall either rectify or replace such rejected Goods or parts thereof or make alterations necessary to meet the specifications at no cost to the Procuring Entity, and shall repeat the test and/or inspection, at no cost to the Procuring Entity, upon giving a notice pursuant to GCC Sub- Clause 26.4.
- 26.8 The Supplier agrees that neither the execution of a test and/or inspection of the Goods or any part thereof, nor the attendance by the Procuring Entity or its representative, nor the issue of any report pursuant to GCC Sub-Clause 26.6, shall release the Supplier from any warranties or other obligations under the Contract.

27. Liquidated Damages

- 27.1 Except as provided under GCC Clause 32, if the Supplier fails to deliver any or all of the Goods by the Date(s) of delivery or perform the Related Services within the period specified in the Contract, the Procuring Entity may without prejudice to all its other remedies under the Contract, deduct from the Contract Price, as liquidated damages, a sum equivalent to the percentage specified in the **SCC** of the delivered price of the delayed Goods or unperformed Services for each week or part thereof of delay until actual delivery or performance, up to a maximum deduction of the percentage specified in those **SCC**. Once the maximum is reached, the Procuring Entity may terminate the Contract pursuant to GCC Clause 35.

28. Warranty

- 28.1 The Supplier warrants that all the Goods are new, unused, and of the most recent or current models, and that they incorporate all recent improvements in design and materials, unless provided otherwise in the Contract.
- 28.2 Subject to GCC Sub-Clause 22.1(b), the Supplier further warrants that the Goods shall be free from defects arising from any act or omission of the Supplier or arising from design, materials, and workmanship, under normal use in the conditions prevailing in the country of final destination.
- 28.3 Unless otherwise specified in the **SCC**, the warranty shall remain valid for twelve (12) months after the Goods, or any portion thereof as the case may be, have been delivered to and accepted at the final destination indicated in the **SCC**, or for eighteen (18) months after the date of shipment from the port or place of loading in the country of origin, whichever period concludes earlier.
- 28.4 The Procuring Entity shall give notice to the Supplier stating the nature of any such defects together with all available evidence thereof, promptly following the discovery thereof. The Procuring Entity shall afford all reasonable opportunity for the Supplier to inspect such defects.
- 28.5 Upon receipt of such notice, the Supplier shall, within the period specified in the **SCC**, expeditiously repair or replace the defective Goods or parts thereof, at no cost to the Procuring Entity.
- 28.6 If having been notified, the Supplier fails to remedy the defect within the period specified in the **SCC**, the Procuring Entity may proceed to take within a reasonable period such remedial action as may be necessary, at the Supplier's risk and expense and without prejudice to any other rights which the Procuring Entity may have against the Supplier under the Contract.

29. Patent Indemnity

- 29.1 The Supplier shall, subject to the Procuring Entity's compliance with GCC Sub-Clause 29.2, indemnify and hold harmless the Procuring Entity and its employees and officers from and against any and all suits, actions or administrative proceedings, claims, demands, losses, damages, costs, and expenses of any nature, including attorney's fees and expenses, which the Procuring Entity may suffer as a result of any infringement or alleged infringement of any patent, utility model, registered design, trademark, copyright, or other intellectual property right registered or otherwise existing at the date of the Contract by reason of:
- a) the installation of the Goods by the Supplier or the use of the Goods in the country where the Site is located; and
 - b) the sale in any country of the products produced by the Goods.

Such indemnity shall not cover any use of the Goods or any part thereof other than for the purpose indicated by or to be reasonably inferred from the Contract, neither any infringement resulting from the use of the Goods or any part thereof, or any products produced thereby in association or combination with any other equipment, plant, or materials not supplied by the Supplier, pursuant to the Contract.

- 29.2 If any proceedings are brought or any claim is made against the Procuring Entity arising out of the matters referred to in GCC Sub-Clause 29.1, the Procuring Entity shall promptly give the Supplier a notice thereof, and the Supplier may at its own expense and in the Procuring Entity's name conduct such proceedings or claim and any negotiations for the settlement of any such proceedings or claim.
- 29.3 If the Supplier fails to notify the Procuring Entity within twenty-eight (28) days after receipt of such notice that it intends to conduct any such proceedings or claim, then the Procuring Entity shall be

free to conduct the same on its own behalf.

29.4 The Procuring Entity shall, at the Supplier's request, afford all available assistance to the Supplier in conducting such proceedings or claim, and shall be reimbursed by the Supplier for all reasonable expenses incurred in so doing.

29.5 The Procuring Entity shall indemnify and hold harmless the Supplier and its employees, officers, and Subcontractors from and against any and all suits, actions or administrative proceedings, claims, demands, losses, damages, costs, and expenses of any nature, including attorney's fees and expenses, which the Supplier may suffer as a result of any infringement or alleged infringement of any patent, utility model, registered design, trademark, copyright, or other intellectual property right registered or otherwise existing at the date of the Contract arising out of or in connection with any design, data, drawing, specification, or other documents or materials provided or designed by or on behalf of the Procuring Entity.

30. Limitation of Liability

30.1 Except in cases of criminal negligence or willful misconduct,

a) the Supplier shall not be liable to the Procuring Entity, whether in contract, tort, or otherwise, for any indirect or consequential loss or damage, loss of use, loss of production, or loss of profits or interest costs, provided that this exclusion shall not apply to any obligation of the Supplier to pay liquidated damages to the Procuring Entity, and

b) the aggregate liability of the Supplier to the Procuring Entity, whether under the Contract, in tort or otherwise, shall not exceed the total Contract Price, provided that this limitation shall not apply to the cost of repairing or replacing defective equipment, or to any obligation of the supplier to indemnify the Procuring Entity with respect to patent infringement.

31. Change in Laws and Regulations

31.1 Unless otherwise specified in the Contract, if after the date of 30 days prior to date of Tender submission, any law, regulation, ordinance, order or bylaw having the force of law is enacted, promulgated, abrogated, or changed in Kenya (which shall be deemed to include any change in interpretation or application by the competent authorities) that subsequently affects the Delivery Date and/or the Contract Price, then such Delivery Date and/or Contract Price shall be correspondingly increased or decreased, to the extent that the Supplier has thereby been affected in the performance of any of its obligations under the Contract. Notwithstanding the foregoing, such additional or reduced cost shall not be separately paid or credited if the same has already been accounted for in the price adjustment provisions where applicable, in accordance with GCC Clause 15.

32. Force Majeure

32.1 The Supplier shall not be liable for forfeiture of its Performance Security, liquidated damages, or termination for default if and to the extent that its delay in performance or other failure to perform its obligations under the Contract is the result of an event of Force Majeure.

32.2 For purposes of this Clause, "Force Majeure" means an event or situation beyond the control of the Supplier that is not foreseeable, is unavoidable, and its origin is not due to negligence or lack of care on the part of the Supplier. Such events may include, but not be limited to, acts of the Procuring Entity in its sovereign capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions, and freight embargoes.

32.3 If a Force Majeure situation arises, the Supplier shall promptly notify the Procuring Entity in writing of such condition and the cause thereof. Unless otherwise directed by the Procuring Entity in writing, the Supplier shall continue to perform its obligations under the Contract as far as is reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event.

33. Change Orders and Contract Amendments

33.1 The Procuring Entity may at any time order the Supplier through notice in accordance GCC Clause 8, to make changes within the general scope of the Contract in any one or more of the following:

a) drawings, designs, or specifications, where Goods to be furnished under the Contract are to be specifically manufactured for the Procuring Entity;

- b) the method of shipment or packing;
 - c) the place of delivery; and
 - d) the Related Services to be provided by the Supplier.
- 332 If any such change causes an increase or decrease in the cost of, or the time required for, the Supplier's performance of any provisions under the Contract, an equitable adjustment shall be made in the Contract Price or in the Delivery/Completion Schedule, or both, and the Contract shall accordingly be amended. Any claims by the Supplier for adjustment under this Clause must be asserted within twenty-eight (28) days from the date of the Supplier's receipt of the Procuring Entity's change order.
- 333 Prices to be charged by the Supplier for any Related Services that might be needed but which were not included in the Contract shall be agreed upon in advance by the parties and shall not exceed the prevailing rates charged to other parties by the Supplier for similar services.
- 334 **Value Engineering:** The Supplier may prepare, at its own cost, a value engineering proposal at any time during the performance of the contract. The value engineering proposal shall, at a minimum, include the following;
- a) the proposed change(s), and a description of the difference to the existing contract requirements;
 - b) a full cost/benefit analysis of the proposed change(s) including a description and estimate of costs (including life cycle costs) the Procuring Entity may incur in implementing the value engineering proposal; and
 - c) a description of any effect(s) of the change on performance/functionality.
- 335 The Procuring Entity may accept the value engineering proposal if the proposal demonstrates benefits that:
- a) accelerates the delivery period; or
 - b) reduces the Contract Price or the life cycle costs to the Procuring Entity; or
 - c) improves the quality, efficiency or sustainability of the Goods; or
 - d) yields any other benefits to the Procuring Entity, without compromising the necessary functions of the Facilities.
- 336 If the value engineering proposal is approved by the Procuring Entity and results in:
- a) a reduction of the Contract Price; the amount to be paid to the Supplier shall be the percentage specified **in the SCC** of the reduction in the Contract Price; or
 - b) an increase in the Contract Price; but results in a reduction in life cycle costs due to any benefit described in
- (a) to (d) above, the amount to be paid to the Supplier shall be the full increase in the Contract Price.
- 337 Subject to the above, no variation in or modification of the terms of the Contract shall be made except by written amendment signed by the parties.

34. Extensions of Time

- 34.1 If at any time during performance of the Contract, the Supplier or its subcontractors should encounter conditions impeding timely delivery of the Goods or completion of Related Services pursuant to GCC Clause 13, the Supplier shall promptly notify the Procuring Entity in writing of the delay, its likely duration, and its cause. As soon as practicable after receipt of the Supplier's notice, the Procuring Entity shall evaluate the situation and may at its discretion extend the Supplier's time for performance, in which case the extension shall be ratified by the parties by amendment of the Contract.
- 342 Except in case of Force Majeure, as provided under GCC Clause 32, a delay by the Supplier in the performance of its Delivery and Completion obligations shall render the Supplier liable to the imposition of liquidated damages pursuant to GCC Clause 26, unless an extension of time is agreed upon, pursuant to GCC Sub-Clause 34.1.

7. Termination

- 35.1 Termination for Default
- a) The Procuring Entity, without prejudice to any other remedy for breach of Contract, by written

notice of default sent to the Supplier, may terminate the Contract in whole or in part:

- i) if the Supplier fails to deliver any or all of the Goods within the period specified in the Contract, or within any extension thereof granted by the Procuring Entity pursuant to GCC Clause 34;
 - ii) if the Supplier fails to perform any other obligation under the Contract; or
 - iii) if the Supplier, in the judgment of the Procuring Entity has engaged in Fraud and Corruption, as defined in paragraph 2.2 a of the Appendix to the GCC, in competing for or in executing the Contract.
- b) In the event the Procuring Entity terminates the Contract in whole or in part, pursuant to GCC Clause 35.1(a), the Procuring Entity may procure, upon such terms and in such manner as it deems appropriate, Goods or Related Services similar to those undelivered or not performed, and the Supplier shall be liable to the Procuring Entity for any additional costs for such similar Goods or Related Services. However, the Supplier shall continue performance of the Contract to the extent not terminated.

35.2 Termination for Insolvency.

The Procuring Entity may at any time terminate the Contract by giving notice to the Supplier if the Supplier becomes bankrupt or otherwise insolvent. In such event, termination will be without compensation to the Supplier, provided that such termination will not prejudice or affect any right of action or remedy that has accrued or will accrue thereafter to the Procuring Entity

35.2 Termination for Convenience.

- a) The Procuring Entity, by notice sent to the Supplier, may terminate the Contract, in whole or in part, at any time for its convenience. The notice of termination shall specify that termination is for the Procuring Entity's convenience, the extent to which performance of the Supplier under the Contract is terminated, and the date upon which such termination becomes effective.
- b) The Goods that are complete and ready for shipment within twenty-eight (28) days after the Supplier's receipt of notice of termination shall be accepted by the Procuring Entity at the Contract terms and prices. For the remaining Goods, the Procuring Entity may elect:
 - i) to have any portion completed and delivered at the Contract terms and prices; and/or
 - ii) to cancel the remainder and pay to the Supplier an agreed amount for partially completed Goods and Related Services and for materials and parts previously procured by the Supplier.

8. Assignment

- 36.1 Neither the Procuring Entity nor the Supplier shall assign, in whole or in part, their obligations under this Contract, except with prior written consent of the other party.

9. Export Restriction

- 37.1 Notwithstanding any obligation under the Contract to complete all export formalities, any export restrictions attributable to the Procuring Entity, to Kenya, or to the use of the products/goods, systems or services to be supplied, which arise from trade regulations from a country supplying those products/goods, systems or services, and which substantially impede the Supplier from meeting its obligations under the Contract, shall release the Supplier from the obligation to provide deliveries or services, always provided, however, that the Supplier can demonstrate to the satisfaction of the Procuring Entity that it has completed all formalities in a timely manner, including applying for permits, authorizations and licenses necessary for the export of the products/goods, systems or services under the terms of the Contract. Termination of the Contract on this basis shall be for the Procuring Entity's convenience pursuant to Sub-Clause 35.3.

SECTION VII - SPECIAL CONDITIONS OF CONTRACT

The following Special Conditions of Contract (SCC) shall supplement and/or amend the General Conditions of Contract (GCC). Whenever there is a conflict, the provisions herein shall prevail over those in the GCC.

[The Procuring Entity shall select insert the appropriate wording using the samples below or other acceptable wording, and delete the text in italics].

GCC 1.1(j)	The Procuring Entity is: <i>[KENYA ELECTRICITY GENERATING PLC]</i>
GCC 1.1 (o)	The Final Destination(s) is/are: <i>[Insert name(s) and detailed information on the location(s) of the site(s)]</i>
GCC 4.2 (b)	The version edition of Incoterms shall be <i>INCOTERMS 2020</i>
GCC 8.1	For notices , the Procuring Entity's address shall be: Attention: Supply Chain Director Postal address P.O Box 47936 00100 Nairobi, Kenya Physical Address KenGen Pension Plaza II, 9th Floor, Kolobot Road, Parklands. Telephone: 0711036000 Electronic mail address: contracts@kengen.co.ke ;
GCC 10.0	Settlement of disputes The procuring entity's and the contractor shall make every effort to resolve to be amicably by direct informal negotiations any disagreement or dispute arising between them under or in connection with the contract
GCC 10.4.2	The place of arbitration shall be Nairobi, Kenya . (Nairobi Centre for International Arbitration)
GCC 13.1	Details of Shipping and other Documents to be furnished by the Supplier are:- Non-negotiable Bill of Lading, Commercial Invoice, Packing List, Pre-shipment Certificate of Conformity (CoC), Certificate of Origin. Manufacturer's or Supplier's warranty certificate. The original of the above documents shall be received by the Procuring Entity within Seven (7) days after the shipment date, if not received, the Supplier will be responsible for any consequent expenses. The seller shall also notify the procuring entity via scanned emails copies immediately upon shipment. (Applicable for International tenders)
GCC 15.1	The prices charged for the Goods supplied and the related Services performed <i>"shall not,"</i> be adjustable.
GCC 16.1	GCC 16.1—The method and conditions of payment to be made to the Supplier under this Contract shall be as follows: Payment Terms and Conditions Local Suppliers Payment shall be thirty (30) days upon delivery, Inspection, and acceptance and receipt of invoice. Local suppliers shall be paid through Electronic Funds Transfer (EFT). Foreign Suppliers Payment through an LC the following conditions shall apply:- <ul style="list-style-type: none">• Payment shall be effected upon presentation of a complete set of shipping documents to the advising bank as will be stipulated in the Letter of Credit (LC).• The Supplier shall be required to meet all LC bank charges incurred in their country; while KenGen will meet those incurred in Kenya.• Any extension and or amendment charges and other costs that may result from

	<p>the Supplier's delays, requests, mistakes or occasioned howsoever by the Supplier shall be to the Supplier's account.</p> <ul style="list-style-type: none"> • The number of LC extensions shall be limited to a maximum of two (2) only, but not exceeding one quarter (3 months) each, at the cost of the Supplier. • Should the Supplier require a confirmed LC, then all confirmation and any other related charges levied by both the Supplier's and KenGen's bank shall be to the Supplier's account. • The LC shall be opened only for the specific order within the validity period of the contract. • The Supplier shall be required to submit a Proforma Invoice for use in the placement of order and opening of the LC. The Proforma Invoice shall be on total Cost and Freight (CFR) basis showing the freight charges separately from the Free on Board (FOB) cost. KenGen will meet the Freight Insurance cost. • A copy of the Performance Security, stamped and certified as authentic by KenGen, whose expiry date should not be less than 30 days from the LC expiry date, shall form part of the documents to be presented to the bank before any payment is made. <p>Advance Payment Advance payment is not applicable.</p> <p>Applicable Milestones</p> <ol style="list-style-type: none"> 1. Upon transformer arrival at the port of Mombasa- 60 percent of Contract price. 2. Upon arrival at Kamburu Power Station- 15 percent of Contract Price 3. Receipt of spares, Transformer assembly, commissioning and Take Over - 20 percent <p>All the milestone shall have a 5 percent retention reimbursable after DLP</p>
GCC 18.1	<p>Performance Security Performance security shall be at 10% of the Contract Price where the contract value is above five million shillings.</p> <p>The performance security shall remain valid for 30 days beyond the validity of the contract.</p>
GCC 18.3	<p>The Performance Security shall be in the form of: <i>an on-Demand Bank Guarantee from a bank registered by Central Bank of Kenya</i>"</p> <p>The Performance security shall be denominated in the currency of the contract.</p>
GCC 24.1	The insurance coverage shall be as specified in the Incoterms.
GCC 25.1	<p>Responsibility for transportation of the Goods shall be as specified in the Incoterms.</p> <p>If not in accordance with Incoterms, responsibility for transportations shall be as follows: <i>[insert "The Supplier is required under the Contract to transport the Goods to a specified place of final destination within Kenya, defined as the Project Site, transport to such place of destination in Kenya, including insurance and storage, as shall be specified in the Contract, shall be arranged by the Supplier, and related costs shall be included in the Contract Price"; or any other agreed upon trade terms (specify the respective responsibilities of the Procuring Entity and the Supplier)]</i></p>
	<p>Delivery: Delivery period shall be six (6) months from the contract commencement date. The delivery terms shall be CFR Mombasa</p>

	<p>Governing Language The contract shall be written in the English language. All correspondence and other documents pertaining to the contract, which are exchanged by the parties, shall be written in the same language.</p>
	<p>Taxes a) "Taxes" means all present and future taxes, levies, duties, charges, assessments, deductions or withholdings whatsoever, including any interest thereon, and any penalties and fines with respect thereto, wherever imposed, levied, collected, or withheld pursuant to any regulation having the force of law and "Taxation" shall be construed accordingly.</p> <p>b) Local Taxation</p> <p>i. Nothing in the Contract shall relieve the Contractor and/or his Sub-Contractors from their responsibility to pay any taxes, statutory contributions and levies that may be levied on them in Kenya in respect of the Contract.</p> <p>ii. The Contract Price shall include all applicable taxes and shall not be adjusted for any of these taxes.</p> <p>iii. Tax exemption granted under this Contract shall be for an official aid funded project and shall be as provided under the applicable tax laws in Kenya.</p> <p>iv. The Contractor shall be deemed to be familiar with the tax laws in the Employer's Country and satisfied themselves with the requirements for all taxes, statutory contributions and duties to which they may be subjected during the term of the Contract. This shall include applicable local or foreign withholding tax, excise duty, Value Added Tax (VAT), importation duties, Local government taxes, and any other taxes not mentioned herein.</p> <p>v. In instances where discussions are held between the Employer and the Contractor regarding tax matters, this shall not be deemed to constitute competent advice and hence does not absolve the Contractor of their responsibility in relation to due diligence on the tax issue as per (i).</p> <p>c) Tax Deduction</p> <p>i. If the Employer is required to make a tax deduction by Law, then the deduction shall be made from payments due to the Contractor and paid directly to the Kenya Revenue Authority. The Employer shall upon remitting the tax to Kenya Revenue Authority furnish the Contractor with the relevant tax deduction certificates.</p> <p>ii. Where payments for the Contract Price are made directly by the financiers to the Contractor, the Contractor and the financiers shall make the necessary arrangements with Employer to ensure that withholding income tax is remitted to the Kenya Revenue Authority.</p> <p>d) Tax Indemnity</p> <p>i. The Contractor shall indemnify and hold the Employer harmless from and against any and all tax liabilities, which the Employer may incur for any reason of failure by the Contractor to comply with any tax laws arising from the execution of the Contract whether during the term of the Contract or after its expiry.</p> <p>ii. The Contractor warrants to pay the Employer (within fourteen (14) days of demand by the Employer), an amount equal to the loss, liability or cost which the Employer determines has been (directly or indirectly) suffered by the Employer for or on account of the Contractor's Tax liability arising from the Contract.</p>

	iii. Where the amount in (ii) above remains unpaid after the end of the fourteen (14) days moratorium, the Employer shall be entitled to compensation for financing charges.
GCC 25.2	Incidental services to be provided are: <i>[Selected services covered under GCC Clause 25.2 and/or other should be specified with the desired features. The price quoted in the Tender price or agreed with the selected Supplier shall be included in the Contract Price.]</i>
GCC 26.1	The inspections and tests shall be: Pre-shipment inspection <ul style="list-style-type: none"> • All consignments subject to Pre-Export Verification of Conformity (PVoC) to Standards Programme must obtain a Certificate of Conformity (CoC) issued by PVoC Country Offices Prior to shipment. The Certificate is a mandatory Customs Clearance document in Kenya; • Consignments arriving at Kenyan Ports without this document will be denied entry into the Country. • Since PVoC is a conformity assessment process to verify that products imported to Kenya are in compliance with the applicable Kenya standards or approved equivalents, regulations and technical requirements before shipment, it is the sole responsibility of the supplier (i.e. exporter) to demonstrate the same and hence meet any associated costs of verification.
GCC 26.2	The Inspections and tests shall be conducted at KenGen premises.
GCC 27.1	The liquidated damage shall be: 0.5 % per week.
GCC 27.1	The maximum amount of liquidated damages shall be: 10 %
GCC 28.3	The period of validity of the Warranty shall be: <i>[24 months]</i> For purposes of the Warranty, the place(s) of final destination(s) shall be: <i>[Kamburu Power Station]</i>
GCC 28.5, GCC 28.6	The period for repair or replacement shall be: <i>[insert number(s)]</i> days.

SECTION VIII ~ CONTRACT FORMS

This Section contains forms which, once completed, will form part of the Contract. The forms for Performance Security and Advance Payment Security, when required, shall only be completed by the successful tenderer after contract award.

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FORM No 1: NOTIFICATION OF INTENTION TO AWARD

This Notification of Intention to Award shall be sent to each Tenderer that submitted a Tender. Send this Notification to the Tenderer's Authorized Representative named in the Tender Information Form on the format below.

FORMAT

1. For the attention of Tenderer's Authorized Representative

- I) Name: _____ *[insert Authorized Representative's name]*
- ii) Address: _____ *[insert Authorized Representative's Address]*
- iii) Telephone: _____ *[insert Authorized Representative's telephone/fax numbers]*
- iv) Email Address: _____ *[insert Authorized Representative's email address]*

[IMPORTANT: insert the date that this Notification is transmitted to Tenderers. The Notification must be sent to all Tenderers simultaneously. This means on the same date and as close to the same time as possible.]

2. Date of transmission: _____ *[email]* on *[date]* _____ (local time)

This Notification is sent by _____ *(Name and designation)* _____

3. Notification of Intention to Award

- I) Employer: _____ *[insert the name of the Employer]*
- ii) Project: _____ *[insert name of project]*
- iii) Contract title: _____ *[insert the name of the contract]*
- iv) Country: _____ *[insert country where ITT is issued]*
- v) ITT No: _____ *[insert ITT reference number from Procurement Plan]*

This Notification of Intention to Award (Notification) notifies you of our decision to award the above contract. The transmission of this Notification begins the Standstill Period. During the Standstill Period, you may:

4. Request a debriefing in relation to the evaluation of your tender

Submit a Procurement-related Complaint in relation to the decision to award the contract.

a) The successful tenderer

- i) Name of successful Tender _____
- ii) Address of the successful Tender _____
- iii) Contract price of the successful Tender Kenya Shillings _____ (in words _____)

b) Other Tenderers

Names of all Tenderers that submitted a Tender. If the Tender's price was evaluated include the evaluated price as well as the Tender price as read out. For Tenders not evaluated, give one main reason the Tender was unsuccessful.

S/No	Name of Tender	Tender Price read out	Tender's evaluated price (Note a)	One Reason Why Not Evaluated
1				
2				
3				
4				
5				

(Note a) State NE if not evaluated

5. How to request a debriefing

- a) DEADLINE: The deadline to request a debriefing expires at midnight on *[insert date]* (local time).
- b) You may request a debriefing in relation to the results of the evaluation of your Tender. If you decide to request a debriefing your written request must be made within three (5) Business Days of receipt of this Notification of Intention to Award.
- c) Provide the contract name, reference number, name of the Tenderer, contact details; and address the request for debriefing as follows:
 - I) Attention: *__[insert full name of person, if applicable]*
 - ii) Title/position: *_____ [insert title/position]*
 - ii) Agency: *__[insert name of Employer]*
 - iii) Email address: *_____ [insert email address]*
- d) If your request for a debriefing is received within the 3 Days deadline, we will provide the debriefing within five (3) Business Days of receipt of your request. If we are unable to provide the debriefing within this period, the Standstill Period shall be extended by five (3) Days after the date that the debriefing is provided. If this happens, we will notify you and confirm the date that the extended Standstill Period will end.
- e) The debriefing may be in writing, by phone, video conference call or in person. We shall promptly advise you in writing how the debriefing will take place and confirm the date and time.
- f) If the deadline to request a debriefing has expired, you may still request a debriefing. In this case, we will provide the debriefing as soon as practicable, and normally no later than fifteen (15) Days from the date of publication of the Contract Award Notice.

6. How to make a complaint

- a) Period: Procurement-related Complaint challenging the decision to award shall be submitted by midnight, *[insert date]* (local time).
- b) Provide the contract name, reference number, name of the Tenderer, contact details; and address the Procurement-related Complaint as follows:
 - I) Attention: *__[insert full name of person, if applicable]*
 - ii) Title/position: *_____ [insert title/position]*
 - iii) Agency: *__[insert name of Employer]*
 - iv) Email address: *_____ [insert email address]*
- c) At this point in the procurement process, you may submit a Procurement-related Complaint challenging the decision to award the contract. You do not need to have requested, or received, a debriefing before making this complaint. Your complaint must be submitted within the Standstill Period and received by us before the Standstill Period ends.
- d) Further information: For more information refer to the Public Procurement and Disposals Act 2015 and its Regulations available from the Website www.ppra.go.ke or email complaints@ppra.go.ke.
You should read these documents before preparing and submitting your complaint.
- e) There are four essential requirements:
 - i) You must be an 'interested party'. In this case, that means a Tenderer who submitted a Tender in this tendering process, and is the recipient of a Notification of Intention to Award.

- ii) The complaint can only challenge the decision to award the contract.
- iii) You must submit the complaint within the period stated above.
- iv) You must include, in your complaint, all of the information required to support your complaint.

7. Standstill Period

- i) DEADLINE: The Standstill Period is due to end at midnight on [*insert date*] (local time).
- ii) The Standstill Period lasts ten (14) Days after the date of transmission of this Notification of Intention to Award.
- iii) The Standstill Period may be extended as stated in paragraph Section 5 (d) above.

If you have any questions regarding this Notification please do not hesitate to contact us.

On behalf of the Employer:

Signature:_____

Name:_____ **Title/p**

FORM NO 2: NOTIFICATION OF AWARD - LETTER OF ACCEPTANCE

[letterhead paper of the Employer]

_____*[date]*

To _____*[name and address of the Contractor]*

This is to notify you that your Tender dated _____*[date]* for execution of the _____*[name of the Contract and identification number, as given in the Contract Data]* for the Accepted Contract Amount _____*[amount in numbers and words] [name of currency]*, as corrected and modified in accordance with the Instructions to Tenderers, is hereby accepted by _____*(name of Employer)*.

You are requested to furnish the Performance Security within 30 days in accordance with the Conditions of Contract, using, for that purpose, one of the Performance Security Forms included in Section VIII, Contract Forms, of the Tender Document.

Authorized Signature: _____ Name a

Attachment: *Contract Agreement*: _____

NOTIFICATION OF AWARD - LETTER OF ACCEPTANCE

[use letterhead paper of the Procuring Entity]

_____ *[date]*

To: _____ *[name and address of the Supplier]*

Subject: _____ ***Notification of Award Contract No.***

This is to notify you that your Tender dated _____ *[insert date]* for execution of the _____ *[insert name of the contract and identification number, as given in the SCC]* for the Accepted Contract Amount of _____ *[insert amount in numbers and words and name of currency]*, as corrected and modified in accordance with the Instructions to tenderers is hereby accepted by our Agency.

You are requested to furnish the Performance Security within 30 days in accordance with the Conditions of Contract, using for that purpose the of the Performance Security Form included in Section X, Contract Forms, of the Tendering document.

Authorized Signature: _____ Name a

Attachment: Contract Agreement

FORM NO 3 ~ CONTRACT AGREEMENT

[The successful tenderer shall fill in this form in accordance with the instructions indicated]

THIS AGREEMENT made the _____ *[insert: number]*/day of _____ *[insert: month]*, *[insert: year]*. BETWEEN (1) _____ *[insert complete name of Procuring Entity]* and having its principal place of business at *[insert: address of Procuring Entity]* (hereinafter called "Procuring Entity"), of the one part; and (2) _____ *[insert name of Supplier]*, a corporation incorporated under the laws of *[insert: country of Supplier]* and having its principal place of business at _____ *[insert: address of Supplier]* (hereinafter called "the Supplier"), of the other part.

3. WHEREAS the Procuring Entity invited Tenders for certain Goods and ancillary services, viz., _____ *[insert]*

- i) In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Contract documents referred to.
 - ii) The following documents shall be deemed to form and be read and construed as part of this Agreement. This Agreement shall prevail over all other contract documents.
 - a) the Letter of Acceptance
 - b) the Letter of Tender
 - c) the Addenda Nos. _____ (if any)
 - d) Special Conditions of Contract
 - e) General Conditions of Contract
 - f) the Specification (including Schedule of Requirements and Technical Specifications)
 - g) the completed Schedules (including Price Schedules)
 - h) any other document listed in GCC as forming part of the Contract
 - iii) In consideration of the payments to be made by the Procuring Entity to the Supplier as specified in this Agreement, the Supplier hereby covenants with the Procuring Entity to provide the Goods and Services and to remedy defects therein in conformity in all respects with the provisions of the Contract.
4. The Procuring Entity hereby covenants to pay the Supplier in consideration of the provision of the Goods and Services and the remedying of defects therein, the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.
5. IN WITNESS whereof the parties hereto have caused this Agreement to be executed in accordance with the laws of Kenya on the day, month and year indicated above.

For and on behalf of the Procuring Entity

Signed: _____ *[insert signature]*

in the capacity of _____ *[insert title or other appropriate*

designation] In the presence of _____ *[insert identification of*

official witness] **For and on behalf of the Supplier**

Signed: _____ *[insert signature of authorized representative(s) of the*

Supplier] in the capacity of _____ *[insert title or other*

appropriate designation] in the presence of _____ *[insert*

identification of official witness]

FORM NO. 4 ~ PERFORMANCE SECURITY [Option 1 ~ Unconditional Demand Bank

Guarantee]

[Guarantor letterhead]

Beneficiary:_____ *[insert name and Address of*

Employer/ **Date:**_____ *[Insert date of issue]*

Guarantor:_____ *[Insert name and address of place of issue, unless indicated in the letterhead]*

1. We have been informed that _____
_ (hereinafter called "the Contractor") has entered into Contract No. _____
_ dated _____
_____ with *(name of Employer)* _____ (the
Employer as the Beneficiary), for the execution of _____ (hereinafter called "the
Contract").
2. Furthermore, we understand that, according to the conditions of the Contract, a performance
guarantee is required.
3. At the request of the Contractor, we as Guarantor, hereby irrevocably undertake to pay the
Beneficiary any sum or sums not exceeding in total an amount of _____ (*in words*),¹ such
sum being payable in the types and proportions of currencies in which the Contract Price is
payable, upon receipt by us of the Beneficiary's complying demand supported by the
Beneficiary's statement, whether in the demand itself or in a separate signed document
accompanying or identifying the demand, stating that the Applicant is in breach of its
obligation(s) under the Contract, without the Beneficiary needing to prove or to show
grounds for your demand or the sum specified therein.
4. This guarantee shall expire, no later than the Day of, 2.....², and any demand
for payment under it must be received by us at the office indicated above on or before that
date.
5. The Guarantor agrees to a one-time extension of this guarantee for a period not to exceed
[six months] *[one year]*, in response to the Beneficiary's written request for such
extension, such request to be presented to the Guarantor before the expiry of the guarantee."

[Name of Authorized Official, signature(s) and seals/stamps]

FORM No. 5 - PERFORMANCE SECURITY [Option 2- Performance Bond]

[Note: Procuring Entities are advised to use Performance Security – Unconditional Demand Bank Guarantee instead of Performance Bond due to difficulties involved in calling Bond holder to action]

[Guarantor letterhead or SWIFT identifier code]

Beneficiary: _____ *[insert name and Address of*

Employer/ **Date:** ____ *[Insert date of issue]*

PERFORMANCE BOND No.: _____

Guarantor: _____ *[Insert name and address of place of issue, unless indicated in the letterhead]*

1. By this Bond _____ as Principal (hereinafter called “the Contractor”) and _____ as Surety (hereinafter called “the Surety”), are held and firmly bound unto _____ as Obligee (hereinafter called “the Employer”) in the amount of _____ for the payment of which sum well and truly to be made in the types and proportions of currencies in which the Contract Price is payable, the Contractor and the Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.
2. WHEREAS the Contractor has entered into a written Agreement with the Employer dated the ____ day of, 20____, for _____ in accordance with the documents, plans, specifications, and amendments thereto, which to the extent herein provided for, are by reference made part hereof and are hereinafter referred to as the Contract.
3. NOW, THEREFORE, the Condition of this Obligation is such that, if the Contractor shall promptly and faithfully perform the said Contract (including any amendments thereto), then this obligation shall be null and void; otherwise, it shall remain in full force and effect. Whenever the Contractor shall be, and declared by the Employer to be, in default under the Contract, the Employer having performed the Employer's obligations thereunder, the Surety may promptly remedy the default, or shall promptly:
 - 1) complete the Contract in accordance with its terms and conditions; or
 - 2) obtain a tender or tenders from qualified tenderers for submission to the Employer for completing the Contract in accordance with its terms and conditions, and upon determination by the Employer and the Surety of the lowest responsive Tenderers, arrange for a Contract between such Tenderer, and Employer and make available as work progresses (even though there should be a default or a succession of defaults under the Contract or Contracts of completion arranged under this paragraph) sufficient funds to pay the cost of completion less the Balance of the Contract Price; but not exceeding, including other costs and damages for which the Surety may be liable hereunder, the amount set forth in the first paragraph hereof. The term “Balance of the Contract Price,” as used in this paragraph, shall mean the total amount payable by Employer to Contractor under the Contract, less the amount properly paid by Employer to Contractor; or
 - 3) pay the Employer the amount required by Employer to complete the Contract in accordance with its terms and conditions up to a total not exceeding the amount of this Bond.
4. The Surety shall not be liable for a greater sum than the specified penalty of this Bond.
5. Any suit under this Bond must be instituted before the expiration of one year from the date of the issuing of the Taking-Over Certificate. No right of action shall accrue on this Bond to or for the use of any person or corporation other than the Employer named herein or the heirs, executors, administrators, successors, and assigns of the Employer.
6. In testimony whereof, the Contractor has hereunto set his hand and affixed his seal, and the Surety has caused these presents to be sealed with his corporate seal duly attested by the signature of his legal representative, this day _____ of _____ 20_____.

SIGNED ON _____ on behalf

of By _____ in the

capacity of In the presence of

SIGNED ON _____ on behalf of

By _____ in the

capacity of In the presence of

FORM NO. 6 ~ ADVANCE PAYMENT SECURITY [Demand Bank Guarantee]

[Guarantor letterhead]

Beneficiary: _____ *[Insert name and Address of*

Employer/ **Date:** _____ *[Insert date of issue]*

ADVANCE PAYMENT GUARANTEE No.: _____ *[Insert guarantee reference*

number] **Guarantor:** _____ *[Insert name and address of*
place of issue, unless indicated in the letterhead]

1. We have been informed that _____ (hereinafter called "the Contractor") has entered into Contract No. _____ dated _____ with the Beneficiary, for the execution of _____
2. Furthermore, we understand that, according to the conditions of the Contract, an advance payment in the sum _____ *(in words)* is to be made against an advance payment guarantee.
3. At the request of the Contractor, we as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of _____ *(in words)* upon receipt by us of the Beneficiary's complying demand supported by the Beneficiary's statement, whether in the demand itself or in a separate signed document accompanying or identifying the demand, stating either that the Applicant:
 - a) has used the advance payment for purposes other than the costs of mobilization in respect of the goods; or
 - b) has failed to repay the advance payment in accordance with the Contract conditions, specifying the amount which the Applicant has failed to repay.
4. A demand under this guarantee may be presented as from the presentation to the Guarantor of a certificate from the Beneficiary's bank stating that the advance payment referred to above has been credited to the Contractor on its account number _____ at _____
5. The maximum amount of this guarantee shall be progressively reduced by the amount of the advance payment repaid by the Contractor as specified in copies of interim statements or payment certificates which shall be presented to us. This guarantee shall expire, at the latest, upon our receipt of a copy of the interim payment certificate indicating that ninety (90) percent of the Accepted Contract Amount, less provisional sums, has been certified for payment, or on the _____ day of _____, 2__,² whichever is earlier. Consequently, any demand for payment under this guarantee must be received by us at this office on or before that date.
6. The Guarantor agrees to a one-time extension of this guarantee for a period not to exceed *[six months]* *[one year]*, in response to the Beneficiary's written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee.

[Name of Authorized Official, signature(s) and seals/stamps]