KENYA ELECTRICITY GENERATING COMPANY LIMITED

KGN-KIP-05-2018

OPEN NATIONAL TENDER FOR EXHAUST GAS BOILER PANEL REHABILLITATION FOR KIPEVU 1 DIESEL PLANT

Kenya Electricity Generating Company Limited
Stima Plaza Phase III, Kolobot Road, Parklands
P.O. BOX 47936-00100
NAIROBI.
Website: www.kengen.co.ke

APRIL, 2017

TABLE OF CONTENTS

SECTION I
INVITATION TO TENDER

The Company invites sealed tenders from eligible candidates for the *Tender for exhaust gas boiler panel rehabilitation for Kipevu Diesel Plant* whose specifications are detailed in the Tender Document. Interested eligible candidates may obtain further information from and inspect the Tender Documents during official working hours starting at the date of advert at the office of:

Supply Chain Director
Tel: (254) (020) 3666000
Email: tenders@kengen.co.ke; nodimo@kengen.co.ke;

where the tender document may be collected upon payment of a non-refundable fee of **KShs.1, 000.00** paid in cash or through a bankers cheque at any KenGen finance office. The document can also be viewed and downloaded from the website www.kengen.co.ke and www.suppliers.treasury.go.ke. Bidders who download the tender document from the website **are advised to forward their particulars to facilitate any subsequent tender clarifications and addenda**. Downloaded copies are free of charge.

Bidders are advised from time to time to be checking the website for any uploaded further information on this tender. They are also advised to be keen on the information provided in the appendix to Instructions to tenderers (I.T.T.) and the special conditions of the contract (S.C.C.). Unless otherwise stated, tenders MUST be accompanied by a security in the format and amount specified in the tender documents and must be submitted in a plain sealed envelope and marked "**KGN-KIP-05-2017** - ***Tender for exhaust boiler panel rehabilitation for Kipevu Diesel Plant***
and addressed to:

Company Secretary & Legal Affairs Director
Kenya Electricity Generating Company Limited
10th Floor, KenGen Pension Plaza II
Kolobot Road, Parklands
P O Box 47936 - 00100
NAIROBI, KENYA

On or before: **23rd May 2018 at 10.00am.**
There will be a **Mandatory** site visit on **3rd May 2018 at 10.00am** at **Kipevu power Station- Mombasa.** Tenders will be opened on **23rd May 2018 at 10.30am.** in the presence of the candidates' representatives who choose to attend at Stima Plaza III, Executive Committee Room, 7th Floor. The company reserves the right to vary the quantities. ***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

SECTION II

INSTRUCTIONS TO TENDERERS

2.1 Eligible Tenderers

2.1.1 This Invitation for Tenders is open to all tenderers eligible as described in the Invitation to Tender. Successful tenderers shall complete the ***tender for exhaust gas boiler rehabilitation repair for Kipevu 1 diesel plant*** the intended completion date specified in the Schedule of Requirements (Section VI).

2.1.2 The procuring entity's employees, committee members, board members and their relative (spouse and children) are not eligible to participate in the tender.

2.1.3 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.

2.1.4 Tenderers shall not be under a declaration of ineligibility for corrupt and fraudulent practices.

2.2 Eligible Goods

2.2.1 All goods to be supplied under the contract shall have their origin in eligible source countries.

2.2.2 For purposes of this clause, "origin" means the place where the goods are mined, grown, or produced. Goods are produced when, through manufacturing, processing, or substantial and major assembly of components, a commercially-recognized product results that is substantially different in basic characteristics or in purpose or utility from its components

2.2.3 The origin of goods is distinct from the nationality of the tenderer.

2.3 Cost of Tendering

2.3.1 The Tenderer shall bear all costs associated with the preparation and submission of its tender, and the procuring entity, will in no case be responsible or liable for those costs, regardless of the conduct or outcome of the tendering process.

2.3.2 The price to be charged for the tender document collected from the Procuring Entity shall not exceed Kshs.1,000/=. Downloaded copies are free of charge.

2.3.3 All firms found capable of performing the contract satisfactorily in accordance with the set prequalification criteria shall be prequalified.

2.4. The Tender Document

2.4.1 The tender document comprises the documents listed below and addenda issued in accordance with clause 2.6 of these instructions to Tenderers

(i) Invitation to Tender
(ii) Instructions to tenderers
(iii) General Conditions of Contract
(iv) Special Conditions of Contract
(v) Schedule of requirements
(vi) Technical Specifications
(vii) Tender Form and Price Schedules
(viii) Tender Security Form
(ix) Contract Form
(x) Performance Security Form
(xi) Manufacturer's Authorization Form
(xii) Confidential Business Questionnaire

2.4.2 The Tenderer is expected to examine all instructions, forms, terms, and specifications in the tender documents. Failure to furnish all information required by the tender documents or to submit a tender not substantially responsive to the tender documents in every respect will be at the tenderers risk and may result in the rejection of its tender.

2.5 Clarification of Documents

2.5.1 A prospective tenderer requiring any clarification of the tender document may notify the Procuring entity in writing or by post at the entity's address indicated in the Invitation to Tender. The Procuring entity will respond in writing to any request for clarification of the tender documents, which it receives not later than seven **(7) days**

prior to the deadline for the submission of tenders, prescribed by the procuring entity. Written copies of the Procuring entities response (including an explanation of the query but without identifying the source of inquiry) will be sent to all prospective tenderers that have received the tender document.

2.5.2 The procuring entity shall reply to any clarifications sought by the tenderer **within 3 days** of receiving the request to enable the tenderer to make timely submission of its tender.

2.6 Amendment of Documents

2.6.1 At any time prior to the deadline for submission of tenders, the Procuring entity, for any reason, whether at its own initiative or in response to a clarification requested by a prospective tenderer, may modify the tender documents by amendment.

2.6.2 All prospective candidates that have received the tender documents will be notified of the amendment in email and will be binding on them.

2.6.3 In order to allow prospective tenderers reasonable time in which to take the amendment into account in preparing their tenders, the Procuring entity, at its discretion, may extend the deadline for the submission of tenders.

2.7 Language of Tender

2.7.1 The tender prepared by the tenderer, as well as all correspondence and documents relating to the tender exchange by the tenderer and the Procuring entity, shall be written in English language, provided that any printed literature furnished by the tenderer may be written in another language provided they are accompanied by an accurate English translation of the relevant passages in which case, for purposes of interpretation of the tender, the English translation shall govern.

2.8 Documents Comprising of Tender

2.8.1 The tender prepared by the tenderers shall comprise the following components:

(a) a Tender Form and a Price Schedule completed in accordance with paragraph 2.9, 2.10 and 2.11 below

(b) documentary evidence established in accordance with paragraph 2.1 that the tenderer is eligible to tender and is qualified to perform the contract if its tender is accepted;

(c) documentary evidence established in accordance with paragraph 2.2 that the goods and ancillary services to be supplied by the tenderer are eligible goods and services and conform to the tender documents; and

(d) tender security furnished in accordance with paragraph 2.14

2.9 **Tender Forms**

2.9.1 The tenderer shall complete the Tender Form and the appropriate Price Schedule furnished in the tender documents, indicating the goods to be supplied, a brief description of the goods, their country of origin, quantity, and prices.

2.10 **Tender Prices**

2.10.1 The tenderer shall indicate on the appropriate Price Schedule the unit prices and total tender price of the goods it proposes to supply under the contract

2.10.2 Prices indicated on the Price Schedule shall include all costs including taxes, insurances and delivery to the premises of the entity.

2.10.3 Prices quoted by the tenderer shall be fixed during the Tender's performance of the contract and not subject to variation on any account. A tender submitted with an adjustable price quotation will be treated as non-responsive and will be rejected, pursuant to paragraph 2.22

2.10.4 The validity period of the tender shall be **120 days** **after** the date of opening of the tender.

2.11 **Tender Currencies**

2.11.1 Prices shall be quoted in Kenya Shillings unless otherwise specified in the Appendix to Instructions to Tenderers.

2.12 **Tenderers Eligibility and Qualifications**

2.12.1 Pursuant to paragraph 2.1. the tenderer shall furnish, as part of its Tender, documents establishing the tenderers eligibility to tender and Its qualifications to perform the contract if its tender is accepted.

2.12.2 The documentary evidence of the tenderers eligibility to tender shall establish to the Procuring entity's satisfaction that the tenderer, at the time of submission of its tender, is from an eligible source country as defined under paragraph 2.1

2.12.3 The documentary evidence of the tenderers qualifications to perform the contract if its tender is accepted shall be established to the Procuring entity's satisfaction;

(a) that, in the case of a tenderer offering to supply goods under the contract which the tenderer did not manufacture or otherwise produce, the tenderer has been duly authorized by the goods' Manufacturer or producer to supply the goods.

(b) that the tenderer has the financial, technical, and production capability necessary to perform the contract;

(c) that, in the case of a tenderer not doing business within Kenya, the tenderer is or will be (if awarded the contract) represented by an Agent in Kenya equipped, and able to carry out the Tenderer's maintenance, repair, and spare parts-stocking obligations prescribed in the Conditions of Contract and/or Technical Specifications.

2.13 Goods Eligibility and Conformity to Tender Documents

2.13.1 Pursuant to paragraph 2.2 of this section, the tenderer shall furnish, as part of its tender documents establishing the eligibility and conformity to the tender documents of all goods which the tenderer proposes to supply under the contract

2.13.2 The documentary evidence of the eligibility of the goods shall consist of a statement in the Price Schedule of the country of origin of the goods and services offered which shall be confirmed by a certificate of origin issued at the time of shipment.

2.13.3 The documentary evidence of conformity of the goods to the tender documents may be in the form of literature, drawings, and data, and shall consist of:

(a) a detailed description of the essential technical and performance characteristic of the goods;

(b) a list giving full particulars, including available source and current prices of spare parts, special tools, etc., necessary for the proper and continuing functioning of the goods for a period of two (2) years, following commencement of the use of the goods by the Procuring entity *(if applicable)*; and

(c) a clause-by-clause commentary on the Procuring entity's Technical Specifications demonstrating substantial responsiveness of the goods and service to those specifications, or

a statement of deviations and exceptions to the provisions of the Technical Specifications.

2.13.4 For purposes of the documentary evidence to be furnished pursuant to paragraph 2.13.3(c) above, the tenderer shall note that standards for workmanship, material, and equipment, as well as references to brand names or catalogue numbers designated by the Procurement entity in its Technical Specifications, are intended to be descriptive only and not restrictive. The tenderer may substitute alternative standards, brand names, and/or catalogue numbers in its tender, provided that it demonstrates to the Procurement entity's satisfaction that the substitutions ensure substantial equivalence to those designated in the Technical Specifications.

2.14 Tender Security

2.14.1 The tenderer shall furnish, as part of its tender, a tender security for the amount specified in the Appendix to Invitation to Tenderers.

2.14.2 The tender security shall be in the amount of *(Specify the amount)*.

2.14.3 The tender security is required to protect the Procuring entity against the risk of Tenderer's conduct which would warrant the security's forfeiture, pursuant to paragraph 2.14.7

2.14.4 The tender security shall be denominated in Kenya Shillings or in another freely convertible currency, and shall be in the form of an on-demand bank guarantee issued by a reputable bank located in Kenya or where the bank is located abroad, it must have a local correspondent bank.

The Tender Security may also be in the form of an on-demand guarantee issued by a reputable insurance company approved by the Authority and in the form provided in the tender documents or another form acceptable to the Procuring entity.

The tender security must be valid for at least thirty (30) days beyond the validity of the tender.

2.14.5 Any tender not secured in accordance with paragraph 2.14.1 and 2.14.3 will be rejected by the Procuring entity as non-responsive, pursuant to paragraph 2.22

2.14.6 Unsuccessful Tenderer's tender security will be discharged or returned as promptly as possible, but not later than thirty (30) days after the

expiration of the period of tender validity prescribed by the Procuring entity.

2.14.7 The successful Tenderer's tender security will be discharged upon the tenderer signing the contract, pursuant to paragraph 2.27 and furnishing the performance security, pursuant to paragraph 2.28

2.14.8 The tender security may be forfeited:

(a) if a tenderer withdraws its tender during the period of tender validity specified by the procuring entity on the Tender Form; or

(b) in the case of a successful tenderer, if the tenderer fails:

(i) to sign the contract in accordance with paragraph 2.27
or
(ii) to furnish performance security in accordance with paragraph 2.28

2.15 Validity of Tenders

2.15.1 Tenders shall remain valid for **120 days** **after** the date of tender opening prescribed by the Procuring entity, pursuant to paragraph 2.18. A tender valid for a shorter period shall be rejected by the Procuring entity as non responsive.

2.15.2 In exceptional circumstances, the Procuring entity may solicit the Tenderer's consent to an extension of the period of validity. The request and the responses thereto s be made in writing. The tender security provided under paragraph 2.14 shall also be suitably extended. A tenderer may refuse the request without forfeiting its tender security. A tenderer granting the request will not be required nor permitted to modify its tender.

2.16 Format and Signing of Tender

2.16.1 The Tenderer shall prepare **two copies of the tender,** clearly marking each **"ORIGINAL TENDER"** and **"COPY OF TENDER**," as appropriate. In the event of any discrepancy between them, the original shall govern.

2.16.2 The original and all copies of the tender shall be typed or written in indelible ink and shall be signed by the tenderer or a person or persons duly authorized to bind the tenderer to the contract. **The latter authorization shall be indicated by written power-of-attorney accompanying the tender**. **All pages of the tender**, except for un-amended printed literature, **shall be initialed by the person or persons signing the tender.**

2.16.3 The tender shall have no interlineations, erasures, or overwriting except as necessary to correct errors made by the tenderer, in which case such corrections shall be initialed by the person or persons signing the tender.

2.17 Sealing and Marking of Tenders

2.17.1 The Tenderer shall seal the original and each copy of the tender in separate envelopes, duly marking the envelopes as "ORIGINAL" and "COPY." The envelopes shall then be sealed in an outer envelope.

2.17.2 The inner and outer envelopes shall:

(a) be addressed to the Procuring entity at the address given in the Invitation to Tender:

(b) bear, tender number and name in the Invitation for Tenders and the words, "DO NOT OPEN BEFORE, **23rd May 2018 at 10.00am**"

2.17.3 The inner envelopes shall also indicate the name and address of the tenderer to enable the tender to be returned unopened in case it is declared "late".

2.17.4 If the outer envelope is not sealed and marked as required by paragraph 2.17.2, the Procuring entity will assume no responsibility for the tender's misplacement or premature opening.

2.18 Deadline for Submission of Tenders

2.18.1 Tenders must be received by the Procuring entity at the address specified under paragraph 2.17.2 no later than **23rd May 2018 at 10.00am**

2.18.2 The Procuring entity may, at its discretion, extend this deadline for the submission of tenders by amending the tender documents in accordance with paragraph 2.6, in which case all rights and obligations of the Procuring entity and candidates previously subject to the deadline will therefore be subject to the deadline as extended

2.19 Modification and Withdrawal of Tenders

2.19.1 The tenderer may modify or withdraw its tender after the tender's submission, provided that written notice of the modification, including substitution or withdrawal of the tenders, is received by the Procuring Entity prior to the deadline prescribed for submission of tenders.

2.19.2 The Tenderer's modification or withdrawal notice shall be prepared, sealed, marked, and dispatched in accordance with the provisions of paragraph 2.17. A withdrawal notice may also be sent by cable, telex but followed by a signed confirmation copy, postmarked not later than the deadline for submission of tenders.

2.19.3 No tender may be modified after the deadline for submission of tenders.

2.19.4 No tender may be withdrawn 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 Tender Form. Withdrawal of a tender during this interval may result in the Tenderer's forfeiture of its tender security, pursuant to paragraph 2.14.7

2.19.5 The procuring entity may at any time terminate procurement proceedings before contract award and shall not be liable to any person for the termination.

2.19.6 The procuring entity shall give prompt notice of the termination to the tenderers and on request give its reasons for termination within 14 days of receiving the request from any tenderer.

2.20 Opening of Tenders

2.20.1 The Procuring entity will open all tenders in the presence of tenderers' representatives who choose to attend, at **23rd May 2018 at 10.30am** and in the location specified in the Invitation to Tender.

The tenderers' representatives who are present shall sign a register evidencing their attendance.

2.20.2 The tenderers' names, tender modifications or withdrawals, tender prices, discounts and the presence or absence of requisite tender security and such other details as the Procuring entity, at its discretion, may consider appropriate, will be announced at the opening.

2.20.3 The Procuring entity will prepare minutes of the tender opening.

2.21 Clarification of Tenders

2.21.1 To assist in the examination, evaluation and comparison of tenders the Procuring entity may, at its discretion, ask the tenderer for a clarification of its tender. The request for clarification and the response shall be in writing, and no change in the prices or substance of the tender shall be sought, offered, or permitted.

2.21.2 Any effort by the tenderer to influence the Procuring entity in the Procuring entity's tender evaluation, tender comparison or contract award decisions may result in the rejection of the tenderers' tender.

2.22 Preliminary Examination

2.22.1 The Procuring entity will examine the tenders to determine whether they are complete, whether any computational errors have been made, whether required sureties have been furnished, whether the documents have been properly signed, and whether the tenders are generally in order.

2.22.2 Arithmetical errors will be rectified on the following basis. If there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantify, the unit price shall prevail, and the total price shall be corrected. If the candidate does not accept the correction of the errors, its tender will be rejected, and its tender security forfeited. If there is a discrepancy between words and figures the amount in words will prevail

2.22.3 The Procuring entity may waive any minor informality or non-conformity or irregularity in a tender which does not constitute a material deviation, provided such waiver does not prejudice or affect the relative ranking of any tenderer.

2.22.4 Prior to the detailed evaluation, pursuant to paragraph 2.23 the Procuring entity will determine the substantial responsiveness of each tender to the tender documents. For purposes of these paragraphs, a substantially responsive tender is one, which conforms to all the terms and conditions of the tender documents without material deviations. The Procuring entity's determination of a tender's responsiveness is to be based on the contents of the tender itself without recourse to extrinsic evidence.

2.22.5 If a tender is not substantially responsive, it will be rejected by the Procuring entity and may not subsequently be made responsive by the tenderer by correction of the non-conformity.

2.23 Conversion to Single Currency

2.23.1 Where other currencies are used, the procuring entity will convert these currencies to Kenya Shillings using the selling exchange rate on the date of tender closing provided by the Central Bank of Kenya.

2.24 Evaluation and Comparison of Tenders

2.24.1 The Procuring entity will evaluate and compare the tenders which have been determined to be substantially responsive, pursuant to paragraph 2.22

2.24.2 The tender evaluation committee shall evaluate the tender within 30 days of the validity period from the date of opening the tender.

2.24.3 A tenderer who gives false information in the tender document about its qualification or who refuses to enter into a contract after notification of contract award shall be considered for debarment from participating in future public procurement.

2.25 Preference

2.25.1 Preference where allowed in the evaluation of tenders shall not exceed 15%

2.26 Contacting the Procuring entity

2.26.1 Subject to paragraph 2.21 no tenderer shall contact the Procuring entity on any matter related to its tender, from the time of the tender opening to the time the contract is awarded.

2.26.2 Any effort by a tenderer to influence the Procuring entity in its decisions on tender, evaluation, tender comparison, or contract award may result in the rejection of the Tenderer's tender.

2.27 Award of Contract

(a) Post-qualification

2.27.1 In the absence of pre-qualification, the Procuring entity will determine to its satisfaction whether the tenderer that is selected as having submitted the lowest evaluated responsive tender is qualified to perform the contract satisfactorily.

2.27.2 The determination will take into account the tenderer financial, technical, and production capabilities. It will be based upon an examination of the documentary evidence of the tenderers qualifications submitted by the tenderer, pursuant to paragraph 2.12.3 as well as such other information as the Procuring entity deems necessary and appropriate.

2.27.3 A positive determination will be a prerequisite for award of the contract to the tenderer. A negative determination will result in rejection of the Tenderer's tender, in which event the Procuring entity will proceed to the next lowest evaluated tender to make a similar determination of that Tenderer's capabilities to perform satisfactorily.

(b) Award Criteria

2.27.4 The Procuring entity will award the contract to the successful tenderer(s) whose tender has been determined to be substantially responsive and has been determined to be the lowest evaluated tender, provided further that the tenderer is determined to be qualified to perform the contract satisfactorily.

2.27.5

(c) Procuring entity's Right to Vary quantities

2.27.6 The Procuring entity reserves the right at the time of contract award to increase or decrease the quantity of goods originally specified in the

Schedule of requirements without any change in unit price or other terms and conditions

(d) **Procuring entity's Right to accept or Reject any or All Tenders**

2.27.7 The Procuring entity reserves the right to accept or reject any tender, and to annul the tendering process and reject all tenders at any time prior to contract award, without thereby incurring any liability to the affected tenderer or tenderers or any obligation to inform the affected tenderer or tenderers of the grounds for the Procuring entity's action

2.28 Notification of Award

2.28.1 Prior to the expiration of the period of tender validity, the Procuring entity will notify the successful tenderer in writing that its tender has been accepted.

2.28.2 The notification of award will constitute the formation of the Contract but will have to wait until the contract is finally signed by both parties

2.28.3 Upon the successful Tenderer's furnishing of the performance security pursuant to paragraph 2.28, the Procuring entity will promptly notify each unsuccessful Tenderer and will discharge its tender security, pursuant to paragraph 2.14

2.29 Signing of Contract

2.29.1 At the same time as the Procuring entity notifies the successful tenderer that its tender has been accepted, the Procuring entity will send the tenderer the Contract Form provided in the tender documents, incorporating all agreements between the parties.

2.29.2 The parties to the contract shall have it signed within **fifteen** (**15) days** from the date of notification of contract award unless there is an administrative review request.

2.29.3 Within **fifteen** (**15) days** of receipt of the Contract Form, the successful tenderer shall sign and date the contract and return it to the Procuring entity.

2.30 Performance Security

2.30.1 Within **fifteen** (**15) days** of the receipt of notification of award from the Procuring entity, the successful tenderer shall furnish the performance security in accordance with the Conditions of Contract, in the

Performance Security Form provided in the tender documents, or in another form acceptable to the Procuring entity.

2.30.2 Failure of the successful tenderer to comply with the requirements of paragraph 2.27 or paragraph 2.28 shall constitute sufficient grounds for the annulment of the award and forfeiture of the tender security, in which event the Procuring entity may make the award to the next lowest evaluated Candidate or call for new tenders.

2.31 Corrupt or Fraudulent Practices

2.31.1 The Procuring entity requires that tenderers observe the highest standard of ethics during the procurement process and execution of contracts when used in the present regulations, the following terms are defined as follows;

(i) "corrupt practice" means the offering, giving, receiving, or soliciting of anything of value to influence the action of a public official in the procurement process or in contract execution; and

(ii) "fraudulent practice" means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of the Procuring entity, and includes collusive practice among tenderer (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;

2.31.2 The procuring entity will reject a proposal for award if it determines that the tenderer recommended for award has engaged in corrupt or fraudulent practices in competing for the contract in question.

2.31.3 Further a tenderer who is found to have indulged in corrupt or fraudulent practices risks being debarred from participating in public procurement in Kenya.

Appendix to Instructions to Tenderers

The following information regarding the particulars of the tender shall complement supplement or amend the provisions of the instructions to tenderers. Wherever there is a conflict between the provision of the instructions to tenderers and the provisions of the appendix, the provisions of the appendix herein shall prevail over those of the instructions to tenderers

INSTRUCTIONS TO TENDERERS REFERENCE	PARTICULARS OF APPENDIX TO INSTRUCTIONS TO TENDERS
2.1.5	This Invitation for Tenders is open to all tenderers eligible as described in the Invitation to Tender.
2.10.2	For local suppliers, tender prices shall be Delivered and Duty Paid (DDP) to Kipevu Diesel Plant.
2.10.4	The validity period of the tender shall be **120 days <u>after</u>** the date of opening of the tender.
2.14.2	The tender security shall be in the amount of Kenya Shillings **300,000 thousand** or equivalent in a freely convertible currency.
2.14.4	The tender security must be valid for at least thirty (30) days beyond the validity of the tender.
2.16.1	The Tenderer shall prepare **two copies of the tender,** clearly marking each **"ORIGINAL TENDER"** and **"COPY OF TENDER"**.
2.18.1	**Tender closing date: 23rd May 2018 at 10.00am** **Tender Opening date: 23rd May 2018 at 10.30am** There will be a **Mandatory** site visit on **3rd May 2018 at 10.00am** at Kipevu Power Station
2.22.2	➢ **No correction of errors.** *Tender sum as submitted and read out during tender opening shall be absolute and final and shall not be subject of correction, adjustment or amendment in any way by any person or entity. Any arithmetic error deemed as a major deviation shall result to disqualification of the bidder at this stage*
2.24.1	*The following shall be the evaluation Criteria* *A)* ***Mandatory preliminary evaluation criteria:*** • Duly completed tender form. • Duly completed price schedules. • Original Equipment Manufacturer's authorization letter or Support from OEM for performance guarantee , proof of support and commitment to execute the project(design, engineering ,FAT and commissioning.)

	• Delivery Period - ≤ six (6) Months from the date of signing the contract • Valid Tax Compliance Certificate issued by Kenya Revenue Authority • Copy of Certificate of Incorporation/ Registration. • Duly filled and signed Mandatory Confidential Business Questionnaire. • Tender validity period of **120 days** after the date of opening of the tender. • The tender security amount of Kenya Shillings one hundred Thousand (**Kes.300,000.00**) or equivalent in a freely convertible currency. • Tender Security validity of 120 days from the date of tender closing. • Sequential pagination/serialization of all pages in the tender document. • Site Visit Certificate ***B) Technical Evaluation criteria:(shall be evaluated on pass or fail system)*** • Shall be fully owned by the Principal (OEM) – Bidder must attach evidence. The bids submitted by System Integrators or Joint Ventures of OEM are not acceptable. • • Compliance to technical specifications for exhaust gas boiler panel rehabilitation as given in Sections 1.3,2,3,&4 • Documentary evidence to prove successful completion at least two (2) INTERGRATED CONTROL AND SAFETY SYSTEMS (ICSS) projects for large power generation plants. • Bidder to provide detailed work schedule showing minimum effect on availability of the plant completion within six(6) months) • Bidder to provide site survey report • Training as per section 5 of the particular specification of exhaust boiler panel rehabilitation • FAT, testing and commissioning procedure as per section 3 & 4. • Warranty/Guarantee period must be at least 24 months after plant commissioning. • Warranty – 10 years spare parts availability after plant start-up • Provide List of recommended two year spare parts spare parts. As per section 7 • Provide operation and maintenance manual both hard and soft copies in English.(Two hard copies and three soft copies) • Conformity to all the required technical specifications.

	• Indication of clear and verifiable after sales repair/service workshop ***C)Financial Evaluation criteria:*** • *Audited Financial statement for the last three years* • Award shall be based on the total lowest evaluated bidder. ***Note**: In accordance with **Clause 82** of the **Public Procurement and Asset Disposal Act 2015. "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***
2.27.7	*KenGen may at its own discretion conduct due diligence on the eligible bidders to establish their ability to perform the contract.*
2.31	***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***

SECTION III:

GENERAL CONDITIONS OF CONTRACT

3.1 Definitions

3.1.1 In this Contract, the following terms shall be interpreted as indicated:-

(a) "The Contract" means the agreement entered into between the Procuring entity and the tenderer, as recorded in the Contract Form signed by the parties, including all attachments and appendices thereto and all documents incorporated by reference therein.

(b) "The Contract Price" means the price payable to the tenderer under the Contract for the full and proper performance of its contractual obligations

(c) "The Goods" means all of the equipment, machinery, and/or other materials, which the tenderer is required to supply to the Procuring entity under the Contract.

(d) "The Procuring entity" means the organization purchasing the Goods under this Contract.

(e) "The Tenderer' means the individual or firm supplying the Goods under this Contract.

3.2 Application

3.2.1 These General Conditions shall apply in all Contracts made by the Procuring entity for the procurement installation and commissioning of equipment

3.3 Country of Origin

3.3.1 For purposes of this clause, "Origin" means the place where the Goods were mined, grown or produced.

3.3.2 The origin of Goods and Services is distinct from the nationality of the tenderer.

3.4 Standards

3.4.1 The Goods supplied under this Contract shall conform to the standards mentioned in the Technical Specifications.

3.5 Use of Contract Documents and Information

3.5.1 The tenderer shall not, without the Procuring entity's prior written consent, disclose the Contract, or any provision therefore, or any specification, plan, drawing, pattern, sample, or information furnished by or on behalf of the Procuring entity in connection therewith, to any person other than a person employed by the tenderer in the performance of the Contract.

3.5.2 The tenderer shall not, without the Procuring entity's prior written consent, make use of any document or information enumerated in paragraph 3.5.1 above

3.5.3 Any document, other than the Contract itself, enumerated in paragraph 3.5.1 shall remain the property of the Procuring entity and shall be returned (all copies) to the Procuring entity on completion of the Tenderer's performance under the Contract if so required by the Procuring entity

3.6 Patent Rights

3.6.1 The tenderer shall indemnify the Procuring entity against all third-party claims of infringement of patent, trademark, or industrial design rights arising from use of the Goods or any part thereof in the Procuring entity's country

3.7 Performance Security

3.7.1 Within **fifteen (15) days** of receipt of the notification of Contract award, the successful tenderer shall furnish to the Procuring entity the performance security in the amount specified in Special Conditions of Contract.

3.7.2 The proceeds of the performance security shall be payable to the Procuring entity as compensation for any loss resulting from the Tenderer's failure to complete its obligations under the Contract.

3.7.3 The performance security shall be denominated in the currency of the Contract, or in a freely convertible currency acceptable to the Procuring entity and shall be in the form of a bank guarantee or an irrevocable letter of credit issued by a reputable bank located in Kenya or abroad,

acceptable to the Procuring entity, in the form provided in the tender documents.

3.7.4 The performance security will be discharged by the Procuring entity and returned to the Candidate not later than thirty (30) days following the date of completion of the Tenderer's performance obligations under the Contract, including any warranty obligations, under the Contract

3.8 Inspection and Tests

3.8.1 The Procuring entity or its representative shall have the right to inspect and/or to test the goods to confirm their conformity to the Contract specifications. The Procuring entity shall notify the tenderer in writing in a timely manner, of the identity of any representatives retained for these purposes.

3.8.2 The inspections and tests may be conducted in the premises of the tenderer or its subcontractor(s), at point of delivery, and/or at the Goods' final destination. If conducted on the premises of the tenderer or its subcontractor(s), 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.

3.8.3 Should any inspected or tested goods fail to conform to the Specifications, the Procuring entity may reject the equipment, and the tenderer shall either replace the rejected equipment or make alterations necessary to make specification requirements free of costs to the Procuring entity.

3.8.4 The Procuring entity's right to inspect, test and where necessary, reject the goods after the Goods' arrival shall in no way be limited or waived by reason of the equipment having previously been inspected, tested and passed by the Procuring entity or its representative prior to the equipment delivery.

3.8.5 Nothing in paragraph 3.8 shall in any way release the tenderer from any warranty or other obligations under this Contract.

3.9 Packing

3.9.1 The tenderer 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.

3.9.2 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

3.10 **Delivery and Documents**

3.10.1 Delivery of the Goods shall be made by the tenderer in accordance with the terms specified by Procuring entity in its Schedule of Requirements and the Special Conditions of Contract

3.11 **Insurance**

3.11.1 The Goods supplied under the Contract shall be fully insured against loss or damage incidental to manufacturer or acquisition, transportation, storage, and delivery in the manner specified in the Special conditions of contract.

3.12 **Payment**

3.12.1 The method and conditions of payment to be made to the tenderer under this Contract shall be specified in Special Conditions of Contract

3.12.2 Payments shall be made promptly by the Procuring entity as specified in the contract

3.13 Prices

3.13.1 Prices charged by the tenderer for goods delivered and services performed under the Contract shall not, with the exception of any price adjustments authorized in Special Conditions of Contract, vary from the prices by the tenderer in its tender.

3.13.2 Contract price variations shall not be allowed for contracts not exceeding one year (12 months)

3.13.3 Where contract price variation is allowed, the variation shall not exceed 25% of the original contract price.

3.13.4 Price variation request shall be processed by the procuring entity within 30 days of receiving the request.

3.14. Assignment

3.14.1 The tenderer shall not assign, in whole or in part, its obligations to perform under this Contract, except with the Procuring entity's prior written consent

3.15 Subcontracts

3.15.1 The tenderer shall notify the Procuring entity in writing of all subcontracts awarded under this Contract if not already specified in the tender. Such notification, in the original tender or later, shall not relieve the tenderer from any liability or obligation under the Contract

3.16 Termination for default

3.16.1 The Procuring entity may, without prejudice to any other remedy for breach of Contract, by written notice of default sent to the tenderer, terminate this Contract in whole or in part

(a) if the tenderer fails to deliver any or all of the goods within the period(s) specified in the Contract, or within any extension thereof granted by the Procuring entity

(b) if the tenderer fails to perform any other obligation(s) under the Contract

(c) if the tenderer, in the judgment of the Procuring entity has engaged in corrupt or fraudulent practices in competing for or in executing the Contract

3.16.2 In the event the Procuring entity terminates the Contract in whole or in part, it may procure, upon such terms and in such manner as it deems appropriate, equipment similar to those undelivered, and the tenderer shall be liable to the Procuring entity for any excess costs for such similar goods.

3.17 Liquidated Damages

3.17.1. If the tenderer fails to deliver any or all of the goods within the period(s) specified in the contract, the procuring entity shall, without prejudice to its other remedies under the contract, deduct from the

contract prices liquidated damages sum equivalent to 0.5% of the delivered price of the delayed items up to a maximum deduction of 10% of the delayed goods. After this the tenderer may consider termination of the contract.

3.18 Resolution of Disputes

3.18.1 The procuring entity and the tenderer shall make every effort to resolve amicably by direct informal negotiation and disagreement or dispute arising between them under or in connection with the contract

3.18.2 If, after thirty (30) days from the commencement of such informal negotiations both parties have been unable to resolve amicably a contract dispute, either party may require adjudication in an agreed national or international forum, and/or international arbitration.

3.19 Language and Law

3.19.1 The language of the contract and the law governing the contract shall be English language and the Laws of Kenya respectively unless otherwise stated.

3.20 Force Majeure

3.20.1 The tenderer shall not be liable for forfeiture of its performance security or termination for default if and to the extent that it's delay in performance or other failure to perform its obligations under the Contract is the result of an event of Force Majeure.

3.21 Taxes

3.21.1 **"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.

3.21.2 **Local Taxation**

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. The Contract Price shall include all applicable taxes and shall not be adjusted for any of these taxes.

3.21.3 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.

3.21.4 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 3.21.2 above.

Tax Deduction

3.21.5 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.

3.21.6 Where the Contractor is paid directly by the Financiers and the Employer is not able to deduct tax, then the Contractor will be required to pay the tax deduction to Kenya Revenue Authority in the name of the Employer and furnish the Employer with an original receipt thereof as evidence of such payment. In absence of the said evidence, the Employer will not process any subsequent payments to the Contractor.

Tax Indemnity

3.21.7 The Contractor shall indemnify and hold the Employer harmless from and against any and all 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.

3.21.8 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.

3.21.9 Where the amount in 3.21.8 above remains unpaid after the end of the fourteen (14) days moratorium, the Employer shall be entitled to compensation for financing charges.

SECTION IV

SPECIAL CONDITIONS OF CONTRACT

4.1. Special Conditions of Contract shall supplement the General Conditions of Contract. Whenever there is a conflict, between the GCC and the SCC, the provisions of the SCC herein shall prevail over these in the GCC.

42. Special conditions of contract as relates to the GCC

REFERENCE OF GCC	SPECIAL CONDITIONS OF CONTRACT
3.7.1	**Performance security;** • The Performance Security shall be in the amount of **10% of the Contract Price**
3.8.1	Inspection and tests • 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.
3.10.1	**Delivery period;** • The Goods shall be delivered **within** 6 **months** from the date of contract award i.e. date of receipt of official order or signed contract
3.12.1	**Payment terms;** KenGen's payment terms are **30 days** upon receipt of certified invoices and delivery notes confirming that the invoiced material has been delivered and is in accordance with the contract. Payment shall be made through KenGen's cheque or telegraphic transfer for the amount of contract. The terms shall be **strictly Delivered and Duty Paid (DDP) to Kipevu Power Station**. **Advance Payment** • Advance payment is not applicable.
3.13.1	**Prices;** • Prices shall be fixed during the Supplier's performance of the Contract and not subject to variation on any account
3.18.1	*Arbitration where necessary shall be by the Chartered Institute of Arbitrators Kenya Chapter or other International body.*

SECTION V
TECHNICAL SPECIFICATIONS

GENERAL SPECIFICATIONS

1. These specifications describe the basic requirements for goods. Tenderers are requested to submit with their offers the detailed specifications, drawings, catalogues, etc. for the products they intend to supply.
2. Tenderers must indicate on the specifications sheets whether the equipment offered comply with each specified requirement.
3. All the dimensions and capacities of the equipment to be supplied shall not be less than those required in these specifications. Deviations from the basic requirements, if any, shall be explained in detail in writing with the offer, with supporting data such as calculation sheets, etc. The procuring entity reserves the right to reject the products, if such deviations shall be found critical to the use and operation of the products.
4. The tenderers are requested to present information along with their offers as follows:

    i) Shortest possible delivery period of each product.
    ii) Information on proper representative and/or workshop for back-up service/repair and maintenance including their names and addresses.

PARTICULAR TECHNICAL SPECIFICATIONS

1. INTRODUCTION

The Kenya Electricity Generating Co. Ltd., herein after referred to as KenGen, intends to upgrade in its entirety the **Boiler Panel, Electrical and Control System**. The whole system needs to be replaced by a new state of the art INTEGRATED CONTROL AND SAFETY SYSTEM (ICSS).

The document contains the qualification of the contractor, minimum technical requirements to be fulfilled by Contractor and the scope of work for the proposed system.

The contractor shall however carry out their own survey to ensure that all requirements are included in their proposed Scope of Work. Any other additional components that will ensure the efficient operation of the INTEGRATED CONTROL AND SAFETY SYSTEM (ICSS) will be listed and priced separately for KenGen's consideration and approval before implementation.

1.1Structure and Layout of the Existing System

The electrical and automatic control system is built in a common cubicle with cable connection underneath.
The electrical part contains:

(i) Main Circuit Breaker (MCB) with magnetic and thermal trips for 400 VAC supply from the switch board
(ii) Transformer to 230 VAC for feeding of 1- phase consumers

(iii) Circuit breakers and contactors
(iv) Emergency stop push buttons

The control system is PLC - based and includes the following main parts:

a) INTEGRATED CONTROL AND SAFETY SYSTEM (ICSS) - based control including all digital and logic controls:
   - Standby – starts
   - Interlocks
   - Soot-blowing control
   - Blow- down control
b) In separate electronic units due to safety reasons:
   - Alarm and indication panels.
   - PID – controllers for steam pressure.
   - Controllers for electrode based condensate and feed water tanks levels.

   The system has three Electrical Panels namely;

a) Panel 1 – System 0

The system includes all supplies and control circuitry of all the common equipment for the boiler system which include condensate tank and boiler feed tank level controls and motor mains and control circuitry.

b) Panel 2 – System 1
   The system includes all steam drum A level control, circulation pumps and damper control circuitry for Exhaust Gas Boilers1, 2 & 3.
c) Panel 3 – System 2
   The system includes all steam drum B level control, circulation pumps and damper control circuitry for Exhaust Gas Boilers 4, 5 & 6.

Refer to Annex 1 for detailed system architecture drawing for existing system.

1.2 Qualification of the Contractor

We intend to replace the existing PLC and single loop controller(s) by an Integrated Control & Safety System (ICSS). The Contractor shall be the OEM of the offered INTEGRATED CONTROL AND SAFETY SYSTEM (ICSS) System. The contractor shall further provide proof of support and commitment to execute the project (design, engineering, Factory Acceptance Test-FAT and commissioning). Hence the contractor is required to get the project fully engineered and factory tested at OEM's factory witnessed by the buyer's representative(s) – the test factory must be fully owned by the OEM.

The proposed contractor cum facility to execute the project (design, engineering, Factory Acceptance Test-FAT, Installation and commissioning) shall meet the following minimum requirements:

1.2.1 Must have successfully executed at least two (3) INTEGRATED CONTROL AND SAFETY SYSTEM (ICSS) projects for large power generation plants in the last five years – Attach evidence.

1.2.2 Shall be fully owned by the Principal (OEM) – Bidder must attach evidence. The bids submitted by System Integrators or Joint Ventures of OEM are not acceptable.

1.2.3 Complete engineering of the TUV SIL 3 logic solver shall be executed in one OEM facility (preferably where FAT shall be done) , which is certified by TUV for FSM (Functional Safety Management). FSM certificate of the facility shall be attached with offer.

1.3 Minimum Technical Requirements

The Boiler control system shall be deployed for the Boiler plant operation and control.

1.3.1. The Boiler control system shall be 100% INTEGRATED CONTROL AND SAFETY SYSTEM (ICSS) based. All that is in the separate electronic units, namely Alarm and Indication Panels, PID – controllers for steam pressure, Controllers for electrode based condensate and feed water levels, Soot-blowing and Blow-down control shall be configured in the INTEGRATED CONTROL AND SAFETY SYSTEM (ICSS) system. However the panel-mounted motor, boiler damper and boiler priority selector switches shall be maintained in the new panels with positive improvements.

1.3.2. The design shall be based on PLC controllers and I/O for the complete Boiler Closed Loop Control System (CLCS), all interlocks and sequences and drive control, except for the DI/DO and control logics for the Boiler Emergency Shutdown System. For the Shutdown system of the Boiler, a TUV SIL certified Logic Solver hardware shall be used. The complete solution shall be offered as an integrated system, in which both PLC controller and TUV SIL 3 certified Logic Solver shall be from same OEM and shall be connected to the ICSS redundant network.

1.3.3. TUV SIL 3 certificate for the offered Logic Solver shall be attached with the proposal.

1.3.4. The control system network shall be redundant and shall be operating at 1 Gbps or higher. Controllers shall also be communicating over the same speed.

1.3.5. The INTEGRATED CONTROL AND SAFETY SYSTEM (ICSS) shall be based on actual DCS controllers TUV SIL3 certified Logic solver and respective I/O modules. Controllers and I/O modules used in general purpose PLC systems are not acceptable.

1.3.6. The offered system shall be suitable for Power Plant applications. If the OEM has more than one INTEGRATED CONTROL AND SAFETY SYSTEM (ICSS) system, the one used specifically for Power projects shall be supplied.

1.3.7. The INTEGRATED CONTROL AND SAFETY SYSTEM (ICSS) controllers shall be based on RISC (Reduced Instruction Set Computing) processors. Controllers based on general purpose processors, used in personal computers are not acceptable.

1.3.8. The INTEGRATED CONTROL AND SAFETY SYSTEM (ICSS) and I/O modules shall have in-built support for modular level I/O redundancy. This

shall be available as a standard feature and shall not use any external, 3rd party hardware. The changeover from faulty I/O modules to its redundant pair shall be automatic and bump-less.

1.3.9. Sequence of Event recording with resolution of 1 msec scan time shall be provided as inbuilt feature with INTEGRATED CONTROL AND SAFETY SYSTEM (ICSS). The time stamping shall be done in the DI modules.

1.3.10. The SOE report with 1 msec SOE feature cutting across DCS & TUV SIL3 certified logic solver shall be available on a HMI.

1.3.11. The INTEGRATED CONTROL AND SAFETY SYSTEM (ICSS) system shall preferably use 2 cabinets - System cabinet shall house electronics modules and Marshalling cabinets shall house field cabling terminal blocks/ terminal boards. All processors, power supplies and communication in the system shall be redundant.

1.3.12. Quality of all the panels and consoles shall be of highest quality as per good engineering practice

1.3.13. Power supplies shall be redundant for controllers and I/O modules. There shall not be any single point of failure for power supply, communication and controller.

1.3.14. INTEGRATED CONTROL AND SAFETY SYSTEM (ICSS) engineering tool (Laptop) shall be provided with CD writer(CD/DVD RW) / USB for back up.

1.3.15. There shall be one Engineering Tool (Laptop) provided for Engineering maintenance.

1.3.16. The HMI (Operator Workstation) shall be able to communicate with the controllers independently.

1.3.17. The TUV SIL3 certified Logic Solver shall be connected to the ICCS network directly without any gateway devices.

2.0 SCOPE OF WORK FOR INTEGRATED CONTROL AND SAFETY SYSTEM (ICSS)

The proposed INTEGRATED CONTROL AND SAFETY SYSTEM (ICSS) system shall be replacing existing Modicon TSX series PLCs with all its associated hardware, software and applications.
This specification defines the minimum requirements of system design including hardware & software, configuration, manufacture, engineering, programming, inspection and testing, documentation, installation, commissioning and shipping of boiler panel, electrical and, control system.
The job includes removal and replacement of the existing boiler panel, electrical and, control system and related civil works.

The scope of work shall comprise of the following but not limited to:

2.1.1. System Design/Engineering, Supply, Training, Installation and Commissioning of the new **Boiler Panel, Electrical and Control System** to replace the existing Panel for Kipevu 1 Diesel Plant in Mombasa, Kenya. The contractor shall ensure such system meets all the specified functional

requirements including system configuration, system integration, factory testing and acceptance of the system. . The technical requirement, are detailed in the previous sections.

2.1.2. Removal of existing System which includes three (3) panels and all the associated equipment. Removed Panels shall be shifted to the location as instructed by KenGen.

2.1.3. Manufacture / supply of all hardware and software necessary to meet specified functional requirements including system configuration, system integration, factory testing and acceptance of the system.

2.1.4. Construct All Architectural, Structural, Electrical, Plumbing, Mechanical works in accordance with Power plant and Boiler area Regulations and Specifications. Discrepancies shall be verified with the Procuring Entity. The boiler housing shall be constructed / refurbished with the highest grade materials in industry to be water, dust, heat, and noise proof enclosure. Materials used should be of suitable for outdoor use (Class IP65 or better).

2.1.5. INTEGRATED CONTROL AND SAFETY SYSTEM (ICSS) shall have dual redundant processor as a minimum. All communications, power supplies shall also be redundant. The AO/DO modules of DCS and all I/O modules of the TUV SIL 3 certified Logic Solver shall be redundant.

2.1.6. All INTEGRATED CONTROL AND SAFETY SYSTEM (ICSS) signals connected to DCS and GCP control system network shall be maintained. The system shall have an OPC Server (non redundant) link for connecting to existing systems for about 500 signals.

2.1.7. The software shall include operating system and application program. The application program shall include software for performing functions like interlock and shutdown logics, programming, programming modifications and documentation etc. The standard programming formats shall be used. User defined ladder logics shall be possible to develop.

2.1.8. Tag identification of all signals from field before removal of existing panel. Existing ferrule to be replaced with new ferrules as per new engineering.

2.1.9. Development of suitable and acceptable work program to have minimum effect on the availability of the plant (steam system). During the implementation of the project, there should always be an available Exhaust gas boiler to support the all the plant heat loads. The contractor shall ensure the common system (System 0) is available at all times if any Exhaust gas boiler is to be available during the implementation period. So arrangements must be made to ensure continued availability of steam with minimal interruption.

2.1.10. Provision of personnel, expertise, tools, equipment, temporary facilities and consumables required for this purpose shall be part of the Contractor's responsibility.

2.1.11. Documentation:

(i) As part of engineering, vendor shall develop documents required for total system configuration including existing system configuration.

(ii) The contractor shall prepare and supply of three (3) 'As-Built' hard copies of the system engineering drawings and associated documentation. These

will include functional schematics, control scheme, dynamic graphic display drawings, logic diagrams, civil works, software instruction sets etc.

(iii) The contractor shall prepare and supply three (3) soft copies of all documents in (i) above.

(iv) Vendor's documentation shall be considered part of the global project documentation to be issued to KenGen at the end of the Factory Acceptance Test.

(v) All the documents shall show Client's reference and document name.

(vi) An Index of documents shall be prepared, listing all the provided documents and their revision number.

(vii) Revisions shall be clearly identified on each sheet, and erased at the last issue, which will be labeled as "As Built".

2.1.10. Forming part of the scope of work the contractor shall take note of the following:

(i) All related panels of existing **Boiler Electrical and Control System** shall be removed from base frame.

(ii) Tag identification of all signals from field before removal of existing panel and hardware consoles.

(iii) Existing ferrules shall be replaced with new ferrules as per new detailed engineering.

(iv) Removal of field cable terminations.

(v) De-glanding of field multi-core cable with proper identification tags.

(vi) Erection of new panels on new base frames, including supply and erection of new base frame.

(vii) General arrangement drawings of base frames shall be approved by KenGen before fabrication.

(viii) Re-glanding of field multi-core cables in the new panel and re-termination of the same with proper identification and tagging. Supply of weather proof glands and lock nuts shall be in the vendor’s scope.

(ix) Site visit, at the vendor’s cost, to KenGen Kipevu 1 Diesel Plant Boiler plant to evaluate the job to be undertaken before submitting the offer is **mandatory** – No offer shall be considered for technical evaluation in absence of this activity

2.1.11. Packing, forwarding, transportation, custom clearance, insurance and storage of the system before installation.

2.1.12. Installation, field testing, loop checking, commissioning and field acceptance of the system.

2.1.13. Panel Earthing shall be connected to the existing common earthing. Vendor to submit the detailed grounding scheme and drawing to KenGen.

2.1.14. Installation and commissioning assistance of free issue if any (owner supplied) items.

2.1.15. INTEGRATED CONTROL AND SAFETY SYSTEM (ICSS) shall be supplied with latest version of system and application software, controllers firmware and latest hardware

2.1.16. Vendor shall study the existing system configuration of INTEGRATED CONTROL AND SAFETY SYSTEM (ICSS) and propose the replacement system hardware and software.

2.1.17. Vendor shall submit the BOM & price schedule with itemized price break-down including mandatory spares and recommended spares.

2.1.18. Site services for INTEGRATED CONTROL AND SAFETY SYSTEM (ICSS) shall be clearly separated out for all items.

2.1.19. KenGen will provide all the existing Boiler Electrical and Control System documents, by which vendor shall code the program and make the necessary functional schematics which shall be submitted to KenGen for approval.

2.1.20. Vendor shall take the total INTEGRATED CONTROL AND SAFETY SYSTEM (ICSS) backup of existing system configuration for system engineering and connectivity.

2.1.21. Vendor shall provide two (2) complete sets of back-up configuration storage for the system, containing operating programs, diagnostic programs, system configuration, etc.

2.1.22. All HMI's provided as part of this requisition shall be equipped with the latest available processor with maximum processing speed.

2.2. Boiler Plant Overview, Operational Philosophy and INTEGRATED CONTROL AND SAFETY SYSTEM (ICSS)

Kipevu 1 Diesel Power Plant has six exhaust gas boilers which generate steam for auxiliary heating. Steam produced is mainly used for heating heavy fuel and lubricating oil, cleaning during maintenance and steam tracing of lines.

The steam is produced in six independent exhaust gas boilers and distributed to the plants through the steam distribution header. Fuel oil is stored in two tanks and pumped to pre-treatment tanks then service tanks after centrifuging process plant through fuel oil pumps. From the service tanks the oil is pumped to the engines in the house.
Lubricating oil is distributed to engine sump tanks and emergency overhead tanks form the main storage tank.

Steam is used to heat the heavy fuel oil at the storage, pre-treatment and service tanks, also at the engine fuel oil skid the oil is finally heated before entering the engine fuel oil system. Steam is also used during centrifuging process to heat heavy fuel oil and lubricating oil to efficiently separate oil form water and impurities.

2.3. Overall Project Schedule

2.3.1. The total project schedule should not exceed four (4) months starting from the signing of the contract. Contractor shall provide detailed project delivery plan to meet this time frame. The activities shall be carried out in consultation with plant management for minimum plant outage and disruption to plant's normal operation.

2.3.2. Contractor shall prepare a detailed complete work schedule showing the sequence of activities (work) to be approved by KenGen.

2.4. APPLICABLE CODES and STANDARDS

2.4.1. EN 61131- 2 – 8 Standards for Programmable controllers.

2.4.2. IEC 61508 – Functional Safety of electrical/electronic/programmable electronic safety related system.

2.4.3. During the design Contractor shall follow the codes and standards which are applicable to the requirement and environment condition.

2.5. DESIGN PHILOSOPHY OF INTEGRATED CONTROL AND SAFETY SYSTEM (ICSS)

2.5.1. Overall System Architecture

2.5.2. Programmable Logic Controller (INTEGRATED CONTROL AND SAFETY SYSTEM (ICSS)) shall be microprocessor based system which shall be used for implementation of Boiler plant operation and control. The INTEGRATED CONTROL AND SAFETY SYSTEM (ICSS) shall be Dual Processor. The INTEGRATED CONTROL AND SAFETY SYSTEM (ICSS) shall incorporate open system architecture, redundant processing systems and mass storage devices. The system shall be designed for maximum reliability, safety and integrity while maintaining an availability of 99.99% or better.

2.5.3. The INTEGRATED CONTROL AND SAFETY SYSTEM (ICSS) system shall be designed as fault tolerant and fail-safe. The system shall be designed by high grade components of proven quality and proper design of system electronics. The system shall have Dual Modular Redundancy (DMR) system architecture as described in the IEC 61508 standard.

2.5.4. The system shall be able to operate satisfactorily from 15^{o}C to 40^{o}C and 0 ~ 95% non condensing humidity range unless otherwise specified.

2.5.5. The system shall be modular in construction and expandable in future by adding additional modules which shall be easily accessible for maintenance and repair. The modules shall preferably be suitable for inserting in 19" rack (DIN standard). The types of modules shall be kept to minimum possible in order to have inter-changeability and low spares inventory.

2.5.6. On-line replacement of any module shall be possible in such a way that the removal and addition of the module shall be possible without de-energising the system. Further there shall not be any interruption in the system while replacing a faulty module. System degradation of any kind is not acceptable.

2.5.7. Based on application like critical and non critical, input/output tags to be defined accordingly during design/ engineering.

2.5.8. The system shall be programmed in principle as per the existing logic circuits. However vendor shall prepare their own logic diagrams depending upon the capability of the programmable logic controller offered by them. Purchaser reserves the right to revise or review the logic diagram even after acceptance of the offer.

2.5.9. The system shall have extensive set of self diagnostics hardware and software for easy and fast maintenance of INTEGRATED CONTROL AND SAFETY SYSTEM (ICSS). Routine checks should run automatically at frequent intervals for identifying any fault in software or hardware.

2.5.10. Redundant power supply distribution shall be such that redundancy is maintained at all modules and even up to the channels for field termination unit.

2.5.11. Operation of the INTEGRATED CONTROL AND SAFETY SYSTEM (ICSS) shall be completely unaffected by the momentary power loss of the order of 20 milliseconds, unless otherwise specified. This feature shall be demonstrated during FAT. Bulk power supply shall be designed for functionalities to ensure power failure bridging time of less than 20 milliseconds under full load.

2.5.12. The scan time of programmable controller shall be 250 milliseconds or better including spare I/O channels. Scan time of INTEGRATED CONTROL AND SAFETY SYSTEM (ICSS) will include all the logic's configured within the system and other activities like diagnostics routines, output / dump of data to peripherals, or any other activity which consume processor time shall also be accounted while computing scan time.

2.5.13. In case any plant unit requires faster scan time, the same may be adopted for that application.

2.6. Spare Capacity Requirements

2.6.1. System hardware and software shall be modular and the system shall be designed with flexibility for future expansion. The expansion shall be achieved by straight addition, not modification, of hardware and with a minimum of software and configuration changes.

2.6.2. The Contractor shall include 20% usable (installed) spare modules in the process connected parts of INTEGRATED CONTROL AND SAFETY SYSTEM (ICSS),10% spare capacity shall be available both in field inputs and outputs as well as every type and category of software blocks and normal blocks, alarming and non-alarming, indication only, PID control, calculation, sequence and logic controls, etc.

2.6.3. In addition the system shall have the following minimum spare capability:

- I/O racks of INTEGRATED CONTROL AND SAFETY SYSTEM (ICSS) shall have 10% usable spare slots for installing I/O modules of each type in future. These racks shall be part of the offer.
- The processor system shall have the capability to execute logic's for additional I/O's. In addition it shall be possible to extend memory by additional 20% at a later stage.
- Power supply modules shall be capable to take load of the spares as outlined above.
- Whenever relays are used to interface process input / outputs with INTEGRATED CONTROL AND SAFETY SYSTEM (ICSS), 20% additional relays shall be provided. In addition, 20% spare space shall be provided in cabinets to install 20% additional relays in future.

2.6.4. Wherever possible, all equipment shall be standardised to ensure uniformity of spares, minimal training and greater economies as far as maintenance and additional procurement is concerned.

2.6.5. Safety barriers shall be provided by the vendor for intrinsically safe input/output circuits wherever specified. In such cases, the system shall be designed intrinsically safe based on entity concept.

2.7. Processor module

2.7.1. The processor shall have capability to implement all the control functions required to implement the logic schemes.

2.7.2. The size of the memory shall be sufficient for storage of the program instruction required by the logic schemes. A minimum of 50% spare memory space shall be provided at the time of handover of the system to Client. The memory shall be at least 128 MB and shall be with ECC (Error Correction Code)

2.7.3. Memory shall be non-volatile. However, in case volatile memory is provided, battery backup shall be provided for a minimum of 50 hrs to keep the stored program intact.

2.7.4. If one of the two CPUs fails, the system will continue to operate on the other CPU. Replacement of the faulty CPU shall be possible without process interruptions. In case of failure of complete communication between controllers and I/O bus, all outputs shall be driven to fail safe states as defined during engineering stage.

2.8. Diagnostic Functions

2.8.1. Minimum following diagnostic features are required:

a) Battery monitoring
b) Internal diagnostics of CPU and other modules
c) CPU/memory diagnostics.
d) It shall be possible to manually switch over from main processor to standby processor without interrupting the system function if required.

h) The redundancy shall be provided for complete processor system including CPU, memory, and power supply and communication subsystem.

e) Failure of single processor shall not affect the system. In case of failure of complete processor system failure i.e. both processors in case of quadruple configuration and two or more in case of triple redundant system outputs shall take fail safe state automatically.

f) It shall be possible to generate first out alarm contact by the INTEGRATED CONTROL AND SAFETY SYSTEM (ICSS) in case where group of parameters are likely to trip a system.

g) CPU module shall have visible indication to indicate the healthiness of the processor module.

2.9. Input / Output System

a) Maximum number of input/output per I/O module shall be not more than sixteen (16) for Analog and thirty two (32) for Digital.

b) Each I/O shall be isolated from external control circuit by suitable means. The minimum isolation level between I/O and logic circuit shall be 1000 volts DC.

c) Each I/O shall be protected against the reversal of polarity of the power voltage to I/O.

d) Each I/O module shall have a status LED per channel to indicate the status of
each input and output.

e) Response time for I/O (ON to OFF and OFF to ON) shall be 10ms maximum.

f) Each input shall be provided with filters to filter out any noise in the input line and contact bouncing noise.

g) The INTEGRATED CONTROL AND SAFETY SYSTEM (ICSS) inputs shall be provided with only dry contacts (potential contacts) unless otherwise specified.

h) The interrogation voltage to the input contacts shall be 24 V DC powered from separate power supply/supplies or shall be part of INTEGRATED CONTROL AND SAFETY SYSTEM (ICSS). The power supplies shall be redundant.

i) Each Analog I/O shall be short circuit proof and all DI/DO shall be protected by fuse. Visual inspection of fuse blown shall be provided for each module's termination board.

j) The communication of I/O system with central processor shall be redundant.

k) INTEGRATED CONTROL AND SAFETY SYSTEM (ICSS) Digital Inputs and Outputs shall have interposing relays.

l) The System shall allow "forcing" of Digital Inputs for testing purpose or to bypass part of logic..

m) Each digital input/output shall be shall be protected by fuse. Visual indication of fuse blown must be provided in terminal boards of the Di/DO modules for each module.

n) The communication of I/O system with central processor shall be redundant with complete error checking.

2.10. Engineering Tool

a) Programming terminal shall be used for programming, program storing, altering, deleting, adding, fault diagnostic, and alarm monitoring.

b) Manual forcing of any input or output contact connected to INTEGRATED CONTROL AND SAFETY SYSTEM (ICSS) shall be possible from engineering tool.
c) It shall be possible to modify, add, and delete the application program online without affecting the outputs and process.
d) It shall be possible to display I/O map in user defined format.
e) Engineering tool shall be provided with self diagnostics feature which shall display error messages.
f) It shall be possible to print out the ladder/ logic diagram on the engineering tool.
g) The I/O maps showing status of all inputs and corresponding outputs in a user defined format.

2.11. HMI Station

2.11.1. HMI station shall display process as well as system alarms for operator's attention and action. Alarms shall appear immediately on the HMI screen as and when they occur.

2.11.2. It shall be possible to set process alarm limits from the HMI i.e. alarm limits on absolute value of measured variable, rate of change of measured variable, high and low deviation set points, and high, extra-high and low, extra-low points on process variable and output. In addition, it shall be possible to derive alarm conditions on the basis of few calculations performed by the system

2.11.3. Alarm messages shall be displayed by flashing the page and group number of the input under alarm. It shall be possible to access the group or tag in alarm condition.

2.11.4. The plant overview display, operator guided message display in addition to display alarm message, shall also be able to provide warning by changing color of excessive deviation of process variable from their set value.

2.11.5. All alarms shall be displayed as they occur or generated with change in the color of display in the following sequence, activating an audio signal:

i. Continuous flashing : Un-acknowledged alarm
ii. Steady display : Acknowledged alarm

2.11.6. The system shall not put off the audio alarm and visual flashing even after the condition returns to normal unless it is acknowledged by the operator.

2.11.7. In addition to alarms appearing on the different displays, the system shall also be able to display alarm summary and alarm history. All pumps stop/ Selector switch to be configured in INTEGRATED CONTROL AND SAFETY SYSTEM (ICSS) LCD through soft switches.

2.12. INTEGRATED CONTROL AND SAFETY SYSTEM (ICSS) Communication Subsystem

2.12.1. The INTEGRATED CONTROL AND SAFETY SYSTEM (ICSS) communication subsystem shall be a digital communication bus that provides a high speed data transfer rapidly and reliably between processor, I/O subsystems, HMI and other devices connected in the INTEGRATED CONTROL AND SAFETY SYSTEM (ICSS) system.

2.13. System Software

2.13.1. The system software shall include all programs for the INTEGRATED CONTROL AND SAFETY SYSTEM (ICSS) and engineering tool which are required to perform all INTEGRATED CONTROL AND SAFETY SYSTEM (ICSS) functions including communication and self-diagnostics. A soft copy of the system software shall be delivered in triplicate with the system.

2.13.2. All the software to be supplied shall be of latest version with long term support from software vendor.

2.13.3. Software shall be Engineer friendly for ease of configuration and troubleshooting.

2.13.4. When fully tested, the configuration software shall be stored in a central point non volatile memory. Logic program shall be saved on flash memory and CD, two copies of which shall be delivered with the system. All databases shall be field configurable and expandable without software redesign.

2.13.5. Soft copy of the logic program shall be delivered in triplicate together with the system.

2.15. Field Testing

2.15.1. All the equipment shall be checked thoroughly after its receipt at site. The Tests. As a minimum shall include,

a) Visual and mechanical testing.
b) Demonstration of all system diagnostics features.
c) Checking of communication between DCS and INTEGRATED CONTROL AND SAFETY SYSTEM (ICSS) and INTEGRATED CONTROL AND SAFETY SYSTEM (ICSS) and Programming unit.
d) Checking of changeover of redundant devices.
e) Demonstration of all system functions.
f) Checking of proper functioning of INTEGRATED CONTROL AND SAFETY SYSTEM (ICSS) programming unit,
g) Complete checking of INTEGRATED CONTROL AND SAFETY SYSTEM (ICSS) system.

3. INSTALLATION TESTING AND COMMISSIONING

3.1.1. Vendor shall offer the services of the installation team which would install the panel and equipment in the boiler control area, lay the interconnecting cabling, check out, test and commission the system.

3.1.2. All technical personnel assigned to site by the vendor shall be fully conversant with the supplies system and software package, and shall have both hardware and software capability to bring the system on line quickly and efficiently with a minimum of interface with other concurrent construction and commissioning activities.

3.1.3. Vendor's responsibility at site shall include all activities necessary to be performed to complete the job as per material requisition including a. Receipt of Hardware / software and checking for Completeness of supplies.

3.1.4. Installation of the system including free supply equipment and field cable termination in the system.

3.1.5. Check out of the equipment installation.

3.1.6. Identification of field cables and Termination of the same.

3.1.7. Necessary Inter-panel cabling to be carried out .Supply of cables in specified scope.

3.1.8. Checking of interconnection, hardware & software configuration, overall system functioning etc.

3.1.9. Loop checking.

3.1.10. Liaison with vendor's home office.

3.1.11. Field test.

3.1.12. Commissioning and online debugging of the system.

3.1.13. Performance of final acceptance test.

3.1.14. All civil works in the boiler control area including false flooring where applicable.

3.1.15. Cable laying and identification of field cables.

3.2. Loop Checking

3.2.1. Loop check shall be carried out by the vendor and checking of interconnection configuration and overall system functioning.

3.2.2. Loop checking shall be carried out to check the functional performance of all elements comprising the loop and thereby ensuring proper configuration, functioning and interconnection.

3.2.3. Vendor shall co-ordinate with field contractor for smooth and proper loop checking. If any discrepancy found during checking shall be brought to the notice of Engineer – in –Charge. All readings shall be recorded on a suitable format and shall be submitted for approval.

3.2.4. After loop checking is completed, Vendor shall connect back any terminals and connections removed for loop checking.

3.3. Final Acceptance Test

3.3.1. The owner will take over the system from the vendor after the final acceptance test, which is defined as successful uninterrupted operation of the system for three weeks. Vendor's personnel shall be present during the test. Any malfunctioning of the system components shall be replaced / Repaired as required. Once a system failure is detected, the acceptance test shall start all over again from the beginning. The warranty period commences from the day owner takes over the System

4. TESTING AND COMMISSIONING

4.1. Factory Acceptance Test

The Contractor shall notify KenGen of the date of FAT in writing 8 weeks prior to factory test start date to allow planning for the test by KenGen.

FAT shall be performed according to a FAT procedure that shall be written by the Contractor and approved by KenGen prior to execution of the FAT. Contractor shall submit this test procedure for approval 14 weeks prior to factory testing start date.

FAT procedure shall be a detailed item-by-item procedure of the tests to be performed for both hardware and software. In the FAT procedure, Contractor shall also identify the methods of deficiency identification, recording and rectification.

FAT will include physical, functional, dimensional, arrangement (cards, racks, wiring, etc.) and identification checks.

FAT shall include all system communication checks, which will be integrated to INTEGRATED CONTROL AND SAFETY SYSTEM (ICSS).
FAT shall be conducted under the following conditions:

- All cabinet equipment shall be powered on.
- Test programs and/or system programs shall be running during the whole test.

FAT shall be conducted by Contractor on the fully assembled and wired system including all peripheral devices and witnessed by KenGen representative(s).
All testing equipment shall be calibrated and traceable to a recognized national standard. Contractor shall provide to KenGen the calibration certificates. As a minimum the following test equipment shall be available during the testing:

- Virtual test function or simulator to test and check the process.
- Test equipment to generate and check signals to/from system.
- Hardware and software engineers to support testing activities for the duration of FAT.

Inadequate performance of system and/or a large number of errors at the factory test may result in KenGen's decision to postpone/restart system test. Any such additional testing shall be performed by Contractor at no additional cost to KenGen. KenGen has all rights to reject the system if Contractor is not able to satisfy the specification of the project.
Configuration testing will be performed with any required inter-wiring, dropping, resistors, fuses and all system components integrated.
Schedule of all hardware shipment will be done upon the KenGen approval after all items of FAT have been tested and verified by KenGen.

Contractor shall provide test records to log all discrepancies found during the FAT activities for hardware and software. This record can be classified for additional or modification requirement requested by KenGen and deviation caused by Contractor which does not meet KenGen specifications. The test records shall be available at site during construction.

Testing shall be done in the presence of witnesses from KenGen and shall include but not limited to the following:

- Visual inspection
- System configuration loading
- Controller functions (regulatory control, sequence and logic controls, etc.)
- Display update period
- System diagnostics features
- System operation (power up, power shutdown, momentary power failure)
- System and process alarms display
- Check formats, reports, prints, etc.
- Check on symbol used, groups, titles, messages and descriptors
- Check on static part of custom graphic displays for consistency and color
- Check each analog input at 0%, 25%, 50%, 75% and 100% of full scale values and check data accuracy and values on corresponding groups, graphics and other displays.
- Engineering unit conversion and scaling parameter
- Check binary (digital) input status in the both the 'ON' and 'OFF' status on corresponding groups, graphics and other displays.
- Check each analog output at 0%, 50% and 100% of full scale values from operator console and check the values on corresponding groups, graphics and other displays.
- Check binary (digital) output status in the both the 'ON' and 'OFF' status from operator console on corresponding groups, graphics and other displays.
- Third party device communication verification.
- Check controller and communication load.

Any failure during test(s) shall be corrected and the relevant test(s) shall be repeated entirely. The total system shall operate continuously under load without failure for a minimum period of 72 hours prior to shipment.

Contractor shall submit to KenGen (Buyer), all test results report for the FAT. The equipment shall not be shipped to the field until Buyer approves the results of the test.

All costs related to FAT activity for KenGen staff shall be borne by KenGen.

4.2. Site Acceptance Test (SAT)

SAT shall be conducted only after completing the following activities:

- FAT completion.
- Delivery of entire system to field and installation.
- Installation of entire system.
- Connection and power-up the system by Contractor

SAT shall be carried out according to a SAT procedure written by Contractor and approved by KenGen prior to execution of the SAT. If necessary, some FAT activity shall be repeated during the SAT.

5. TRAINING

Contractor shall provide training to KenGen's engineers, operation and maintenance personnel (20 persons).

All Contractor's training shall be planned and conducted before the completion of equipment installation to the greatest extent possible and conducted by qualified experienced instructor as follows:

(i) at the Contractor's premises (factory) - four (4) persons (duration 5 days)
(ii) at the job site – sixteen (16) persons (Duration 5 days)

Upon completion of training, the students shall be provided with certificates of competency.
The comprehensive training on the INTEGRATED CONTROL AND SAFETY SYSTEM (ICSS) system shall be conducted by the contractor to client Engineers to equip them with sufficient knowledge on how to maintain and carry out future modifications on the INTEGRATED CONTROL AND SAFETY SYSTEM (ICSS) system. The training course shall cover fundamentals, system architecture, hardware, software, configuration, programming and maintenance aspects. This shall be done before the commencement of the factory acceptance tests.

The training program is shall be conducted as below;

Factory Training

(i) Advanced system architecture design, software and hardware configuration, advanced diagnostics, maintenance, alarm management and process control.

(ii) FAT participation

Site Training

(i) Product and systems familiarization, startup, operations, maintenance and troubleshooting.
(ii) Participation in commissioning of the project program (attachment to Contractor)

The contractor however shall present a training proposal that shall be discussed and agreed upon with the client during the preliminary design.

6. GUARANTEE AND WARRANTY

All systems and components supplied under Vendor's specifications shall be guaranteed against defective materials, failled function of software products, poor workmanship, design deficiencies and false functional applications for 24 months after successful plant commissioning.
Contractor shall make up all necessary corrections to all deficiencies noted and to either repair or replace and to return within this time at free of charge any failed equipment. Satisfactory warranty documents shall be provided by Contractor.

The entire cost, including manhours, traveling, freight, of modifying, repairing or replacing any equipment, materials or components in order to meet the performance guarantee shall be borne by the Contractor.

Contractor shall also give warranty that spare parts shall be available for a minimum period of 10 years after successful plant startup or from the date of Site Acceptance Test (SAT).

The system shall be capable of incorporating any OEMs hardware enhancements presently in development or contemplated. Software upgrades or enhancements including any hardware required to implement the software shall be made available free of charge to KenGen for two years after final payment.

7. SPARE PARTS

(i) The Contractor shall provide a comprehensive list of commissioning spares in the main proposal.

All the remaining Commissioning Spare Parts at the conclusion of the project shall be handed over to KenGen free of charge.

(ii) The contractor shall also provide a list of recommended 2 years spare parts

SECTION VI

SCHEDULE OF REQUIREMENTS

No.	DESCRIPTION	UoM	Remarks
1	Supply, Installation, Commissioning and Training of Boiler System Integrated Control and Safety System.	SET	

SECTION VII
PRICE SCHEDULE FOR GOODS

No.	DESCRIPTION	UoM	Price (Kes)
1	Supply, Installation, Commissioning and Training of Boiler System Integrated Control and Safety System.	**SET**	
Total Cost			
Discount (%) if any			
Add 16% VAT			
Less Withholding Income Tax on the Service Component. Please refer to the Clause 3.21.3 on Local Taxation.			
Grand Total Cost Delivery Duty Paid (DDP) to Kipevu Power Station			
Delivery period (in months)			
Country of Origin			

Tenderer's name (Company) _____

Signature & Rubber-stamp_____Date_____

SECTION VIII
STANDARD FORMS

8.1 FORM OF TENDER

Date _____
Tender No. _____

To: _____

_____
[name and address of procuring entity]

Gentlemen and/or Ladies:

1. Having examined the tender documents including Addenda Nos. ……. *[insert numbers]*.the receipt of which is hereby duly acknowledged, we, the undersigned, offer to supply deliver, install and commission …… (***exhaust gas boiler***) in conformity with the said tender documents for the sum of ……. (*total tender amount in words and figures*) or such other sums as may be ascertained in accordance with the Schedule of Prices attached herewith and made part of this Tender.

2. We undertake, if our Tender is accepted, to deliver install and commission the equipment in accordance with the delivery schedule specified in the Schedule of Requirements.

3. If our Tender is accepted, we will obtain the guarantee of a bank in a sum of equivalent to _____ percent of the Contract Price for the due performance of the Contract , in the form prescribed by ……. …….(*Procuring entity).*

4. We agree to abide by this Tender for a period of **120 [*number]* days** from the date fixed for tender opening of the Instructions to tenderers, and it shall remain binding upon us and may be accepted at any time before the expiration of that period.

5. This Tender, together with your written acceptance thereof and your notification of award, shall constitute a Contract, between us, subject to signing of the Contract by the parties.

6. We understand that you are not bound to accept the lowest or any tender you may receive.

Dated this _____ day of _____ 20 _____

_____ _____
[signature] [in the capacity of]

Duly authorized to sign tender for an on behalf of _____

MANDATORY CONFIDENTIAL BUSINESS QUESTIONNAIRE

(Must be filled by all applicants or Tenderers' who choose to participate in this tender)

Name of Applicant(s).....

You are requested to give the particulars in Part 1 and either Part 2 (a), 2 (b) or 2 (c), whichever applies to your type of business. Part 2 (d) to part 2 (i / j) must be filled. You are advised that giving wrong or false information on this Form will lead to automatic disqualification/termination of your business proposal at your cost.

Part 1 – General

Business Name:……Certificate of Incorporation / Registration No. ……..…Location of business premises:
Country ……..…Physical address ……..…….
Town ……..…….Building……
Floor……Plot No. ……..…….
Street / Road ……..……..……Postal Address ……..……
Postal / Country Code…….Telephone No's…...……
Fax No's. ……..……E-mail address ……..……
Website ……..……
Contact Person (*Full Names*) …… Direct / Mobile No's.……..…
Title …… Power of Attorney (**Yes / No**)
If **yes,** attach written document.
Nature of Business (*Indicate whether manufacturer, distributor, etc)* ……..……..……..

(Applicable to Local suppliers only)

Local Authority Trading License No. …… Expiry Date ……..
Value Added Tax No.…….……
Value of the largest single assignment you have undertaken to date (***US D/KShs)***
……..……
Was this successfully undertaken? **Yes / No**. ……(If **Yes**, attach reference)
Name (s) of your banker (s) ……..……..
Branches …… Tel. No's. …….…….

Part 2 (a) – Sole Proprietor (if applicable)

Full names ……..……..…….
Nationality…….. Country of Origin……...……
……..…….……
Company Profile ……. (*Attach brochures or annual reports in case of public company)*

Part 2 (b) – Partnerships (if applicable)

Give details of partners as follows:

Full Names Nationality Citizenship Details Shares

1. …….
2. …….

Company Profile ……. (*Attach brochures)*

Part 2 (c) – Registered Company (if applicable - as per the CR12 form)

Private or public …….
Company Profile ……. (*Attach brochures or annual reports in case of public companies)*
State the nominal and issued capital of the Company
Nominal KShs ……..…….
Issued KShs ……..…….

List of top ten (10) shareholders and distribution of shareholding in the company. Give details of all directors as follows:-

Full Names Nationality Citizenship Details Shares
1……. …… …… ……..…..
2…… …… …… ……..…..…..

Part 2 (d) – Debarment
I/We declare that I/We have not been debarred from any procurement process and shall not engage in any fraudulent, corrupt, coercive and obstructive acts with regard to this or any other tender by the KENGEN and any other public or private institutions.
Full Names
……
Signature
……
Dated this ……day of ……2017.
In the capacity of
……
Duly authorized to sign Tender for and on behalf of ……

Part 2 (e) – Bankruptcy / Insolvency / receivership.
I/We declare that I/We have not been declared bankrupt or insolvent by the competent Authorities in Kenya and neither are we under receivership:
Full Names ……
Signature
……
Dated this ……day of ……2018.
In the capacity of
……
Duly authorized to sign Tender for and on behalf of ……

Part 2 (f) – Criminal Offence
I/We, (Name (s) of Director (s)):-
a) ……..……..……

b) ……..…..……..……

Have not been convicted of any criminal offence relating to professional conduct or the making of false statements or misrepresentations as to its qualifications to enter into a procurement contract within a period of three (3) years preceding the commencement of procurement proceedings.
Signed
……
For and on behalf of M/s
……..……..
In the capacity of
……
Dated this ……day of ……2018.
Suppliers' / Company's Official Rubber Stamp
……

Part 2 (g) – Conflict of Interest
I/We, the undersigned state that I / We have no conflict of interest in relation to this procurement:
a) ……
b) ……
For and on behalf of M/s ……..
In the capacity of ……
Dated this ……day of …….2018
Suppliers' / Company's Official Rubber Stamp
……

Part 2 (h) – Interest in the Firm:

Is there any person/persons in KENGEN or any other public institution who has interest in the Firm? Yes/No …….. (*Delete as necessary)* Institution …….
……. …… ……
(Title) (Signature) (Date)

Part 2 (i or j) – Bank account details:

AGPO firms must provide evidence from their bank that the account to which KenGen shall make payment has a youth or a woman or a PWD listed in the **CR12 form/partnership deed/sole proprietor certificate** as a MANDATORY signatory of that account,- **Sec.157 (11) of PPADA:**

Account No:…….....…..Name of the person(s) in the CR12 form OR in the partnership deed OR in the sole proprietor certificate…….…….....…../.....……..……..

ID No(s):……/…….……..…….…..…...Signature and stamp of the authorized Banker Representative……..……Date……..

Part 2(j or k) – Declaration

I / We, the undersigned state and declare that the above information is correct and that I / We give KENGEN authority to seek any other references concerning my / our company from whatever sources deemed relevant, e.g. Office of the Registrar of Companies, Bankers, etc.
Full names
……..
Signature……
For and on behalf of M/s ……..
In the capacity of
……
Dated this ……day of ……2018.
Suppliers' / Company's Official Rubber Stamp
……

8.3 TENDER SECURITY FORM

(To be on the Banks Letterhead)

WHEREAS ……. [*name of the tenderer]* (hereinafter called "the tenderer") has submitted its tender dated ……. [*date of submission of tender]* for …… ……*[name and/or description of the equipment]* (hereinafter called "the Tender")

KNOW ALL PEOPLE by these presents that **WE** …… of ……. having our registered office at ……. (hereinafter called "the Bank"), are bound unto the **Kenya Electricity Generating Company Limited** (hereinafter called "the Procuring entity") in the sum of …….. for which payment well and truly to be made to you, the Bank binds itself, its successors, and assigns by these presents.

Sealed with the Common Seal of the said Bank this _____day of ____ 20

THE CONDITIONS of this obligation are:-

1. If the tenderer withdraws its Tender during the period of tender validity specified by the tenderer on the Tender Form; or
2. If the tenderer, having been notified of the acceptance of its Tender by the Procuring entity during the period of tender validity:

(a) fails or refuses to execute the Contract Form, if required; or

(b) fails or refuses to furnish the performance security in accordance with the Instructions to tenderers;

We undertake to pay the Procuring entity up to the above amount upon receipt of its first written demand, without the Procuring entity having to substantiate its demand, provided that in its demand the Procuring entity will note that the amount claimed by it is due to it, owing to the occurrence of one or both of the two conditions, specifying the occurred condition or conditions.

This tender guarantee will remain in force up to and including thirty (30) days after the period of tender validity, and any demand in respect thereof should reach the Bank not later than the above date.

*[Signature of the bank]*_____

(Amend accordingly if provided by Insurance Company)

8.4 CONTRACT FORM

THIS AGREEMENT made the _____ day of _____ 20 ____ between …… [*name of* **the Employer***)* of …….. [*country of* **the Employer***]* (hereinafter called "**the Employer**) of the one part and …….. [*name of* **the Supplier***]* of …….. [*city and country of* **the Supplier***]* (hereinafter called "**the Supplier**") of the other part;

WHEREAS the Employer invited tenders for …….] and has accepted a tender by the tenderer for the supply of ……. in the sum of …… [*contract price in words and figures]* (hereinafter called "the Contract Price).

NOW THIS AGREEMENT WITNESSETH AS FOLLOWS:

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Contract referred to:

2. The following documents shall be deemed to form and be read and construed as part of this Agreement viz:

(a) the Tender Form and the Price Schedule submitted by the tenderer
(b) the Schedule of Requirements
(c) the Technical Specifications
(d) the General Conditions of Contract
(e) the Special Conditions of contract; and
(f) the Procuring entity's Notification of Award and Tenderer's Acceptance
(g) Applicable addenda and clarifications

3. In consideration of the payments to be made by the Procuring entity to the tenderer as hereinafter mentioned, the tenderer hereby covenants with the Procuring entity to provide the goods 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 tenderer in consideration of the provisions of the goods 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.

IN WITNESS whereof the parties hereto have caused this Agreement to be executed in accordance with their respective laws the day and year first above written.

Signed by _____ the _____ (for the Procuring entity

Signed by _____ the _____ (for the tenderer in the presence of _____ _____

(Amend accordingly if provided by Insurance Company)

8.5 **PERFORMANCE SECURITY FORM**

(To be on the Banks Letterhead)

To …….
[*name of Procuring entity]*

WHEREAS …… [*name of tenderer*] (hereinafter called "the tenderer") has undertaken , in pursuance of Contract No. _____ [*reference number of the contract]* for dated _____ _____ 20 _____ to supply …… [*description of goods]* (hereinafter called "the Contract").

AND WHEREAS it has been stipulated by you in the said Contract that the tenderer shall furnish you with a bank guarantee by a reputable bank for the sum specified therein as security for compliance with the Tenderer's performance obligations in accordance with the Contract.

AND WHEREAS we have agreed to give the tenderer a guarantee:

NOW THEREFORE WE hereby affirm that we are Guarantors and responsible to you, on behalf of the tenderer, up to a total of ……. [*amount of the guarantee in words and figure]* and we undertake to pay you, upon your first written demand declaring the tenderer to be in default under the Contract and without cavil or argument, any sum or sums within the limits of …….. [*amount of guarantee]* as aforesaid, without you needing to prove or to show grounds or reasons for your demand or the sum specified therein.

This guarantee is valid until the _____ day of _____ 20 __

Signed and seal of the Guarantors

_____

[name of bank or financial institution]

_____

[address]

_____

[date]

8.6 MANUFACTURER'S AUTHORIZATION FORM

To [*name of the Procuring entity]* ……..

WHEREAS ……[*name of the manufacturer]* who are established and reputable manufacturers of …….. [*name and/or description of the goods]* having factories at …… [*address of factory]* do hereby authorize …… [*name and address of Agent]* to submit a tender, and subsequently negotiate and sign the Contract with you against tender No. ……. [*reference of the Tender]* for the above goods manufactured by us.

We hereby extend our full guarantee and warranty as per the General Conditions of Contract for the goods offered for supply by the above firm against this Invitation for Tenders.

_____

[*signature for and on behalf of manufacturer]*

Note: This letter of authority should be on the letterhead of the Manufacturer and should be signed by a person authorized.

APPENDIX 1(A)