



**MASINDE MULIRO UNIVERSITY OF SCIENCE AND TECHNOLOGY
(MMUST)**

Tel: 0203551086

Fax: 056-30153

E-mail mmust@wust.ac.ke

Website www.wust.ac.ke

P.O Box 190

Kakamega – 50100

Kenya

***PROPOSED 100KVA PRIME RATED STANDBY GENERATOR SET AT THE
PROPOSED ANATOMY LAB IN MASINDE MULIRO UNIVERSITY OF
SCIENCE AND TECHNOLOGY.***

TENDER No. MMUST/PDU/01/2017-18

TENDER SPECIFICATIONS AND BILLS OF QUANTITIES

FOR

**INSTALLATION OF 100KVA PRIME RATED STANDBY GENERATOR
SET.**

ELECTRICAL & MECHANICAL ENGINEER:

COUNTYL ELECTRICAL ENGINEER (BS)

MINISTRY OF PUBLIC WORKS

KAKAMEGA COUNTY

P.O. Box 14-50100,

KAKAMEGA

CLIENT:

THE VICE CHANCELLOR;

MMUST,

P.O. Box 190-50100,

KAKAMEGA

ARCHITECT:

UNIVERSITY ARCHITECT

MMUST

P.O. Box 190-50100

KAKAMEGA,

QUANTITY SURVEYOR:

COUNTY QUANTITY SURVEYOR

MINISTRY OF PUBLIC WORKS,

KAKAMEGA COUNTY

P.O. Box 14-50100,

KAKAMEGA

STRUCTURAL ENGINEER:

UNIVERSITY STRUCTURAL ENGINEER

MMUST

P.O. Box 190-50100,

KAKAMEGA

May, 2017

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DEFINITIONS

The following terms and expressions used in the contract document shall have the following meanings:

The Employer	Government of the Republic of Kenya Represented by: The Vice Chancellor, Masinde Muliro University of Science and Technology, P.O. Box 190-50100, <u>Kakamega</u>
Architect	The University Architect, MMUST, P.O. Box 190-50100, <u>KAKAMEGA</u>
Electrical Engineer	County Electrical Engineer (BS) Ministry of Public Works P.O. Box 14-50100, <u>KAKAMEGA</u>
Quantity Surveyor	County Quantity Surveyor, P.O. Box 14-50100, KAKAMEGA.
Structural Engineer	University Structural Engineer, MMUST P.O. Box 190-50100, <u>KAKAMEGA</u>
Employer's representative	This shall mean the Project Manager and shall be The University Architect, MMUST, P.O. Box 190-50100, <u>KAKAMEGA</u>
Main contractor	The firm appointed to carry out Builders works
SubContractor	The firm appointed to carry out THE INSTALLATION OF 100KVA PRIME RATED STANBY GENERATOR SET.
Site	The site for the works is at the <i>Proposed Anatomy Lab in Masinde Muliro University of Science & Technology.</i>

SPECIAL NOTES

1. ***These notes shall form part of these specifications and conditions of contract.***

2. *The tenderer is required to check the number of pages in this document and should he find any missing; or duplicate, or indistinct he should inform in writing; The County Electrical Engineer(BS), Ministry of Public Works at P.O. Box 14-50100, Kakamega..*

3. *Should the tenderer be in any doubt of the precise meaning of any item or figure for any reason whatsoever; he must inform in writing; County Electrical Engineer(BS), Ministry of Public Works at P.O. Box 14-50100, Kakamega.*

4. *No liability will be admitted nor claim allowed, in respect of errors in the tender due to mistakes in the specifications which should have been rectified in the manner described above.*

5. *All tenderers must make a declaration that they have not and will not make any payment to any person which can be perceived as an inducement to enable them to win the tender.*

FORM OF TENDER

To: Vice Chancellor
Masinde Muliro University of Science & Technology,
P.O. Box 190-50100,
KAKAMEGA.

SUPPLY ,DELIVERY, INSTALLATION AND COMMISSIONING OF 100KVA STANDBY GENERATOR SET AT THE ANATOMY LAB- MMUST.

TENDER No. MMUST/PDU/01/2017-18

1. In accordance with the Instructions to Tenderers, Conditions of Contract, Specifications and Bills of Quantities for the execution of the above named Works, we, the undersigned offer to construct, install and complete such Works and remedy any defects therein for the sum of:

Kshs..... *[Amount in figures]*

Kenya Shillings.....

.....

..... *[Amount in words]*

2. We undertake, if our tender is accepted, to commence the Works as soon as is reasonably possible after the receipt of the Employer’s Representative’s notice to commence, and to complete the whole of the Works comprised in the Contract within the time stated in the Appendix to Conditions of Contract.
3. We agree to abide by this tender **for a period of 120 days from the date of tender opening**, and shall remain binding upon us and may be accepted at any time before the expiry of that period.
4. Unless and until a formal Agreement is prepared and executed this tender together with your written acceptance thereof, shall constitute a binding Contract between us.
5. We understand that you are not bound to accept the lowest or any tender you may receive.

Dated this day of20.....

Signaturein the capacity of duly

authorized to sign tenders for and on behalf of:

..... *[Name of Tenderer]*

of..... *[Address of Tenderer]*

PIN No. VAT CERTIFICATE No.

Witness: Name

Address

Signature

FORM OF TENDER SECURITY

WHEREAS..... (hereinafter called “the Tenderer”) has submitted his tender dated.....for the construction of
..... (name of Contract)

KNOW ALL PEOPLE by these presents that WE.....having our registered office at..... (hereinafter called “the Bank”), are bound unto(hereinafter called “the Employer” in the sum of ***Ksh. 2% of Tender Sum***;.....for which payment well and truly to be made to the said Employer, the Bank bind itself, its successors and assigns by these presents sealed with the Common Seal of the said Bank thisDay of20.....

THE CONDITIONS of this obligation are:

1. If after tender opening the tenderer withdraws his tender during the period of tender validity specified in the instructions to tenderers

Or
2. If the tenderer, having been notified of the acceptance of this tender by the Employer during the period of tender validity:
 - a) fails or refuses to execute the form of Agreement in accordance with the Instructions to Tenderers, if required; or
 - b) fails or refuses to furnish the Performance Security, in accordance with the Instructions to Tenderers;

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

This guarantee will remain in force for a period of 150 days from date of tender opening, and any demand in respect thereof should reach the Bank not later than the said date.

[date]

[signature of the Bank]

[witness]

[seal]

SECTION A

INSTRUCTIONS TO TENDERERS

INSTRUCTIONS TO TENDERERS

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INSTRUCTION TO TENDERERS

Note: The tenderer must comply with the following conditions and instructions and failure to do so is liable to result in rejection of the tender.

GENERAL

1. Definitions

- (a) **“Tenderer”** means any person or persons partnership firm or company submitting a sum or sums in the Bills of Quantities in accordance with the Instructions to Tenderers, Conditions of Contract Parts I and II, Specifications, Drawings and Bills of Quantities for the work contemplated, acting directly or through a legally appointed representative.
- (b) **“Approved tenderer”** means the tenderer who is approved by the Employer.
- (c) Any noun or adjective derived from the word **“tender”** shall be read and construed to mean the corresponding form of the noun or adjective **“bid”**. Any conjugation of the verb “tender” shall be read and construed to mean the corresponding form of the verb “bid.”
- (d) **“Employer”** means a Central Government Ministry, Local Authority, State Corporation or any other Public Institution.

2. Eligibility and Qualification Requirements

- 2.1 This invitation to tender is open to all tenderers who have been prequalified.
- 2.2 To be eligible for award of Contract, the tenderer shall provide evidence satisfactory to the Employer of their eligibility under Sub clause 2.1 above and of their capability and adequacy of resources to effectively carry out the subject Contract. To this end, the tenderer shall be required to update the following information already submitted during prequalification:-
 - (a) Details of experience and past performance of the tenderer on the works of a similar nature within the past five years and details of current work on hand and other contractual commitments.
 - (b) The qualifications and experience of key personnel proposed for administration and execution of the contract, both on and off site.

- (c) Major items of construction plant and equipment proposed for use in carrying out the Contract. Only reliable plant in good working order and suitable for the work required of it shall be shown on this schedule. The tenderer will also indicate on this schedule when each item will be available on the Works. Included also should be a schedule of plant, equipment and material to be imported for the purpose of the Contract, giving details of make, type, origin and CIF value as appropriate.
- (d) Details of subcontractors to whom it is proposed to sublet any portion of the Contract and for whom authority will be requested for such subletting in accordance with clause 4 of the Conditions of Contract.
- (e) A draft Program of Works in the form of a bar chart and Schedule of Payment which shall form part of the Contract if the tender is accepted. Any change in the Program or Schedule shall be subjected to the approval of the Engineer.
- (f) Details of any current litigation or arbitration proceedings in which the Tenderer is involved as one of the parties.

2.3 Joint Ventures

Tenders submitted by a joint venture of two or more firms as partners shall comply with the following requirements:-

- (a) The tender, and in case of a successful tender, the Form of Agreement, shall be signed so as to be legally binding on all partners.
- (b) One of the partners shall be nominated as being in charge; and this authorization shall be evidenced by submitting a power of attorney signed by legally authorized signatories of all the partners.
- (c) The partner in charge shall be authorized to incur liabilities and receive instructions for and on behalf of any and all partners of the joint venture and the entire execution of the Contract including payment shall be done exclusively with the partner in charge.
- (d) All partners of the joint venture shall be liable jointly and severally for the execution of the Contract in accordance with the Contract terms, and a relevant statement to this effect shall be included in the authorization mentioned under (b) above as well as in the Form of Tender and the Form of Agreement (in case of a successful tender).
- (e) A copy of the agreement entered into by the joint venture partners shall be submitted with the tender.

3. Cost of Tendering

The tenderer shall bear all costs associated with the preparation and submission of his tender and the Employer will in no case be responsible or liable for those costs, regardless of the conduct or outcome of the tendering process.

4. Site Visit

4.1 The tenderer is advised to visit and examine the Site and its surroundings and obtain for himself on his own responsibility, all information that may be necessary for preparing the tender and entering into a contract. The costs of visiting the Site shall be the tenderer's own responsibility.

4.2 The tenderer and any of his personnel or agents will be granted permission by the Employer to enter upon premises and lands for the purpose of such inspection, but only upon the express condition that the tenderer, his personnel or agents, will release and indemnify the Employer from and against all liability in respect of, and will be responsible for personal injury (whether fatal or otherwise), loss of or damage to property and any other loss, damage, costs and expenses however caused, which but for the exercise of such permission, would not have arisen.

4.3 The Employer shall organize a site visit at a date to be notified. A representative of the Employer will be available to meet the intending tenderers at the Site.

Tenderers must provide their own transport. The representative will not be available at any other time for site inspection visits.

Each tenderer shall complete the Certificate of Tenderer's Visit to the Site, whether he in fact visits the Site at the time of the organized site visit or by himself at some other time.

TENDER DOCUMENTS

5. Tender Documents

5.1 The Tender documents comprise the documents listed herebelow and should be read together with any Addenda issued in accordance with Clause 7 of these instructions to tenderers.

- a. Form of Invitation for Tenders
- b. Instructions to Tenderers
- c. Form of Tender
- d. Appendix to Form of Tender
- e. Form of Tender Surety

- f. Statement of Foreign Currency Requirements
- g. Form of Performance Security
- h. Form of Agreement
- i. Form of Advance payment Bank Guarantee
- j. Schedules of Supplementary Information
- k. General Conditions of Contract – Part I
- l. Conditions of Particular Application – Part II
- m. Specifications
- n. Bills of Quantities
- o. Drawings

5.2 The tenderer is expected to examine carefully all instructions, conditions, forms, terms, specifications and drawings in the tender documents. Failure to comply with the requirements for tender submission will be at the tenderer's own risk. Pursuant to clause 22 of Instructions to Tenderers, tenders which are not substantially responsive to the requirements of the tender documents will be rejected.

5.3 All recipients of the documents for the proposed Contract for the purpose of submitting a tender (whether they submit a tender or not) shall treat the details of the documents as "private and confidential".

6. Clarification of Tender Documents

6.1 A prospective tenderer requiring any clarification of the tender documents may notify the Employer in writing or by telex, cable or facsimile at the Employer's mailing address indicated in the Invitation to Tender. The Employer will respond in writing to any request for clarification which he receives earlier than 5 days prior to the expiry of 28 days deadline for the submission of tenders. Written copies of the Employer's response (including the query but without identifying the source of the inquiry) will be sent to all prospective tenderers who have purchased the tender documents.

7. Amendment of Tender Documents

7.1 At any time prior to the deadline for submission of tenders the Employer may, for any reason, whether at his own initiative or in response to a clarification requested by a prospective tenderer, modify the tender documents by issuing Addenda.

7.2 Any Addendum will be notified in writing or by cable, telex or facsimile to all prospective tenderers who have purchased the tender documents and will be binding upon them.

- 7.3 If during the period of tendering, any circular letters (tender notices) shall be issued to tenderers by, or on behalf of, the Employer setting forth the interpretation to be placed on a part of the tender documents or to make any change in them, such circular letters will form part of the tender documents and it will be assumed that the tenderer has taken account of them in preparing his tender. The tenderer must promptly acknowledge any circular letters he may receive.
- 7.4 In order to allow prospective tenderers reasonable time in which to take the Addendum into account in preparing their tenders, the Employer may, at his discretion, extend the deadline for the submission of tenders.

PREPARATION OF TENDERS

8. Language of Tender

- 8.1 The tender and all correspondence and documents relating to the tender exchanged between the tenderer and the Employer shall be written in the English language. Supporting documents and printed literature furnished by the tenderer with the tender may be in another language provided they are accompanied by an appropriate translation of pertinent passages in the above stated language. For the purpose of interpretation of the tender, the English language shall prevail.

9. Documents Comprising the Tender

- 9.1 The tender to be prepared by the tenderer shall comprise: the Form of Tender and Appendix thereto, a Tender Surety, the Priced Bills of Quantities and Schedules, the information on eligibility and qualification, and any other materials required to be completed and submitted in accordance with the Instructions to Tenderers embodied in these tender documents. The Forms, Bills of Quantities and Schedules provided in the tender documents shall be used without exception (subject to extensions of the schedules in the same format and to the provisions of clause 13.2 regarding the alternative forms of Tender Surety).

10. Tender Prices

- 10.1 All the insertions made by the tenderer shall be made in INK and the tenderer shall clearly form the figures. The relevant space in the Form of Tender and Bills of Quantities shall be completed accordingly without interlineations or erasures except those necessary to correct errors made by the tenderer in which case the erasures and interlineations shall be initialed by the person or persons signing the tender.

- 10.2 A price or rate shall be inserted by the tenderer for every item in the Bills of Quantities whether the quantities are stated or not items against which no rate or price is entered by the tenderer will not be paid for by the Employer when executed and shall be deemed covered by the rates for other items and prices in the Bills of Quantities.

The prices and unit rates in the Bills of Quantities are to be the full [all-inclusive] value of the work described under the items, including all costs and expenses which may be necessary and all general risks, liabilities and obligations set forth or implied in the documents on which the tender is based. All duties and taxes and other levies payable by the Contractor under the Contract or for any other cause as of the date 28 days prior to the deadline for the submission of tenders, shall be included in the rates and prices and the total tender prices submitted by the Tenderer.

Each price or unit rate inserted in the Bills of Quantities should be a realistic estimate for completing the activity or activities described under that particular item and the tenderer is advised against inserting a price or rate against any item contrary to this instruction.

Every rate entered in the Bills of Quantities, whether or not such rate be associated with a quantity, shall form part of the Contract. The Employer shall have the right to call for any item of work contained in the Bills of Quantities, and such items of work to be paid for at the rate entered by the tenderer and it is the intention of the Employer to take full advantage of unbalanced low rates.

- 10.3 Unless otherwise specified the tenderer must enter the amounts representing 10% of the sub-total of the summary of the Bills of Quantities for Contingencies and Variation of Prices [V.O.P.] payments in the summary sheet and add them to the sub-total to arrive at the tender amount.
- 10.4 The tenderer shall furnish with his tender written confirmation from his suppliers or manufacturers of unit rates for the supply of items listed in the Conditions of Contract clause 47 where appropriate.
- 10.5 The rates and prices quoted by the tenderer are subject to adjustment during the performance of the Contract only in accordance with the provisions of the Conditions of Contract. The tenderer shall complete the schedule of basic rates and shall submit with his tender such other supporting information as required under clause 47 of the Conditions of Contract Part II.

11. Currencies of Tender and Payment

- 11.1 Tenders shall be priced in Kenya Shillings and the tender sum shall be in Kenya Shillings.
- 11.2 Tenderers are required to indicate in the Statement of Foreign Currency Requirements, which forms part of the tender, the foreign currency required by them. Such currency should generally be the currency of the country of the tenderer's main office. However, if a substantial portion of the tenderer's expenditure under the Contract is expected to be in countries other than his country of origin, then he may state a corresponding portion of the contract price in the currency of those other countries. However, the foreign currency element is to be limited to two (2) different currencies and a maximum of 30% (thirty percent) of the Contract Price.
- 11.3 The rate of rates of exchange used for pricing the tender shall be selling rate or rates of the Central Bank ruling on the date thirty (30) days before the final date for the submission of tenders.
- 11.4 Tenderers must enclose with their tenders, a brief justification of the foreign currency requirements stated in their tenders.

12. Tender Validity

- 12.1 The tender shall remain valid and open for acceptance for a period of one hundred and twenty (120) days from the specified date of tender opening or from the extended date of tender opening (in accordance with clause 7.4 here above) whichever is the later.
- 12.2 In exceptional circumstances prior to expiry of the original tender validity period, the Employer may request the tenderer for a specified extension of the period of validity. The request and the responses thereto shall be made in writing or by cable, telex or facsimile. A tenderer may refuse the request without forfeiting his Tender Surety. A tenderer agreeing to the request will not be required nor permitted to modify his tender, but will be required to extend the validity of his Tender Surety correspondingly.

13. Tender Surety

- 13.1 The tenderer shall furnish as part of his tender, a Tender Surety in the amount stated in the Appendix to Instructions to Tenderers.
- 13.2 The unconditional Tender Surety shall be in Kenya Shillings and be in form of a certified cheque, a bank draft, an irrevocable letter of credit or a guarantee from a reputable Bank approved by the Employer located in the Republic of Kenya.

The format of the Surety shall be in accordance with the sample form of Tender Surety included in these tender documents; other formats may be permitted subject to the prior approval of the Employer. The Tender Surety shall be valid for twenty eight (28) days beyond the tender validity period.

- 13.3 Any tender not accompanied by an acceptable Tender Surety will be rejected by the Employer as non-responsive.

13.4 The Tender Sureties of unsuccessful tenderers will be returned as promptly as possible but not later than twenty eight (28) days after concluding the Contract execution and after a Performance Security has been furnished by the successful tenderer. The Tender Surety of the successful tenderer will be returned upon the tenderer executing the Contract and furnishing the required Performance Security.

13.5 The Tender Surety may be forfeited:

- (a) if a tenderer withdraws his tender during the period of tender validity: or
- (b) in the case of a successful tenderer, if he fails
 - (i) to sign the Agreement, or
 - (ii) to furnish the necessary Performance Security
- (c) if a tenderer does not accept the correction of his tender price pursuant to clause 23.

14. No Alternative Offers

14.1 The tenderer shall submit an offer which complies fully with the requirements of the tender documents.

Only one tender may be submitted by each tenderer either by himself or as partner in a joint venture.

14.2 The tenderer shall not attach any conditions of his own to his tender. The tender price must be based on the tender documents. The tenderer is not required to present alternative construction options and he shall use without exception, the Bills of Quantities as provided, with the amendments as notified in tender notices, if any, for the calculation of his tender price.

Any tenderer who fails to comply with this clause will be disqualified.

15. Pre-Tender Meeting

15.1 The tenderer's designated representative is invited to attend a pre-tender meeting, which if convened, will take place at the venue and time stated in the Invitation to Tender. The purpose of the meeting will be to clarify issues and to answer questions on any matter that may be raised at that stage.

15.2 The tenderer is requested as far as possible to submit any questions in writing or by cable, to reach the Employer not later than seven days before the meeting. It may not be practicable at the meeting to answer questions received late, but questions and responses will be transmitted in accordance with the following:

- (a) Minutes of the meeting, including the text of the questions raised and the responses given together with any responses prepared after the meeting, will be transmitted without delay to all purchasers of the tender documents. Any modification of the tender documents listed in --Clause 9 which may become necessary as a result of the pre-tender meeting shall be made by the Employer exclusively through the issue of a tender notice pursuant to Clause 7 and not through the minutes of the pre-tender meeting.
- (b) Non-attendance at the pre-tender meeting will not be cause for disqualification of a bidder.

16. Format and Signing of Tenders

16.1 The tenderer shall prepare his tender as outlined in clause 9 above and mark appropriately one set "ORIGINAL" and the other "COPY".

16.2 The copy of the tender and Bills of Quantities shall be typed or written in indelible ink and shall be signed by a person or persons duly authorized to sign on behalf of the tenderer. Proof of authorization shall be furnished in the form of the written power of attorney which shall accompany the tender. All pages of the tender where amendments have been made shall be initialed by the person or persons signing the tender.

16.3 The complete tender shall be without alterations, interlineations or erasures, except as necessary to correct errors made by the tenderer, in which case such corrections shall be initialed by the person of persons signing the tender.

SUBMISSION OF TENDERS

17. Sealing and Marking of Tenders

17.1 The tenderer shall seal the original and copy of the tender in separated envelopes, duly marking the envelopes as "ORIGINAL" and "COPY". The envelopes shall then be sealed in an outer envelope.

17.2 The inner and outer envelopes shall be addressed to the Employer at the address stated in the Appendix to Instructions to Tenderers and bear the name and identification of the Contract stated in the said Appendix with a warning not to open before the date and time for opening of tenders stated in the said Appendix.

- 17.3 The inner envelopes shall each indicated the name and address of the tenderer to enable the tender to be returned unopened in case it is declared “late”, while the outer envelope shall bear no mark indicating the identity of the tenderer.
- 17.4 If the outer envelope is not sealed and marked as instructed above, the Employer will assume no responsibility for the misplacement or premature opening of the tender. A tender opened prematurely for this cause will be rejected by the Employer and returned to the tenderer.

18 Deadline for Submission of Tenders

- 18.1 Tenders must be received by the Employer at the address specified in clause 17.2 and on the date and time specified in the Letter of Invitation, subject to the provisions of clause 7.4, 18.2 and 18.3.

Tenders delivered by hand must be placed in the “tender box” provided in the office of the Employer.

Proof of posting will not be accepted as proof of delivery and any tender delivered after the above stipulated time, from whatever cause arising will not be considered.

- 18.2 The Employer may, at his discretion, extend the deadline for the submission of tenders through the issue of an Addendum in accordance with clause 7, in which case all rights and obligations of the Employer and the tenderers previously subject to the original deadline shall thereafter be subject to the new deadline as extended.

- 18.3 Any tender received by the Employer after the prescribed deadline for submission of tender will be returned unopened to the tenderer.

19 Modification and Withdrawal of Tenders

- 19.1 The tenderer may modify or withdraw his tender after tender submission, provided that written notice of the modification or withdrawal is received by the Employer prior to prescribed deadline for submission of tenders.

The tenderer’s modification or withdrawal notice shall be prepared, sealed, marked and dispatched in accordance with the provisions for the submission of tenders, with the inner and outer envelopes additionally marked “MODIFICATION” or “WITHDRAWAL” as appropriate.

- 19.2 No tender may be modified subsequent to the deadline for submission of tenders.

- 19.3 No tender may be withdrawn in the interval between the deadline for submission of tenders and the period of tender validity specified on the tender form. Withdrawal of a tender during this interval will result in the forfeiture of the Tender Surety.

- 19.4 Subsequent to the expiration of the period of tender validity prescribed by the Employer, and the tenderer having not been notified by the Employer of the award of the Contract or the tenderer does not intend to conform with the request of the Employer to extend the prior of tender validity, the tenderer may withdraw his tender without risk of forfeiture of the Tender Surety.

TENDER OPENING AND EVALUATION

20 Tender Opening

- 20.1 The Employer will open the tenders in the presence of the tenderers' representatives who choose to attend at the time and location indicated in the Letter of Invitation to Tender. The tenderers' representatives who are present shall sign a register evidencing their attendance.
- 20.2 Tenders for which an acceptable notice of withdrawal has been submitted, pursuant to clause 19, will not be opened. The Employer will examine the tenders to determine whether they are complete, whether the requisite Tender Sureties have been furnished, whether the documents have been properly signed and whether the tenders are generally in order.
- 20.3 At the tender opening, the Employer will announce the tenderer's names, total tender price, tender price modifications and tender withdrawals, if any, the presence of the requisite Tender Surety and such other details as the Employer, at his discretion, may consider appropriate. No tender shall be rejected at the tender opening except for late tenders.
- 20.4 The Employer shall prepare minutes of the tender opening including the information disclosed to those present.
- 20.5 Tenders not opened and read out a tender opening shall not be considered further for evaluation, irrespective of the circumstances.

21 Process to be Confidential

- 21.1 After the public opening of tenders, information relating to the examination, clarification, evaluation and comparisons of tenders and recommendations concerning the award of Contract shall not be disclosed to tenderers or other persons not officially concerned with such process until the award of Contract is announced.
- 21.2 Any effort by a tenderer to influence the Employer in the process of examination, evaluation and comparison of tenders and decisions concerning award of Contract may result in the rejection of the tenderer's tender.

22 Clarification of Tenders

- 22.1 To assist in the examination, evaluation and comparison of tenders, the Employer may ask tenderers individually for clarification of their tenders, including breakdown of unit prices. The request for clarification and the response shall be in writing or by cable, facsimile or telex, but no change in the price or substance of the tender shall be sought, offered or permitted except as required to confirm the correction of arithmetical errors discovered by the employer during the evaluation of the tenders in accordance with clause 24.
- 22.2 No Tenderer shall contact the Employer on any matter relating to his tender from the time of the tender opening to the time the Contract is awarded. If the tenderer wishes to bring additional information to the notice of the Employer, he shall do so in writing.

23 Determination of Responsiveness

- 23.1 Prior to the detailed evaluation of tenders, the Employer will determine whether each tender is substantially responsive to the requirements of the tender documents.
- 23.2 For the purpose of this clause, a substantially responsive tender is one which conforms to all the terms, conditions and specifications of the tender documents without material deviation or reservation and has a valid bank guarantee. A material deviation or reservation is one which affects in any substantial way the scope, quality, completion timing or administration of the Works to be undertaken by the tenderer under the Contract, or which limits in any substantial way, inconsistent with the tender documents, the Employer's rights or the tenderers obligations under the Contract and the rectification of which would affect unfairly the competitive position of other tenderers who have presented substantially responsive tenders.
- 23.3 Each price or unit rate inserted in the Bills of Quantities shall be a realistic estimate of the cost of completing the works described under the particular item including allowance for overheads, profits and the like. Should a tender be seriously unbalanced in relation to the Employer's estimate of the works to be performed under any item or groups of items, the tender shall be deemed not responsive.
- 23.4 A tender determined to be not substantially responsive will be rejected by the Employer and may not subsequently be made responsive by the tenderer by correction of the non-conforming deviation or reservation.

24 Correction of Errors

Tenders determined to be substantially responsive shall be checked by the Employer for any arithmetic errors in the computations and summations. Errors will be corrected by the Employer as follows:

- (a) Where there is a discrepancy between the amount in figures and the amount in words, the amount in words will govern.
- (b) Where there is a discrepancy between the unit rate and the line item total resulting from multiplying the unit rate by the quantity, the unit rate as quoted will prevail, unless in the opinion of the Employer, there is an obvious typographical error, in which case adjustment will be made to the entry containing that error.
- (c) The amount stated in the tender will be adjusted in accordance with the above procedure for the correction of errors and, with concurrence of the tenderer, shall be considered as binding upon the tenderer. If the tenderer does not accept the corrected amount, the tender may be rejected and the Tender Security may be forfeited in accordance with clause 13.

25 Conversion to Single Currency

- 25.1 For compensation of tenders, the tender price shall first be broken down into the respective amounts payable in various currencies by using the selling rate or rates of the Central Bank of Kenya ruling on the date twenty eight (28) days before the final date for the submission of tenders.
- 25.2 The Employer will convert the amounts in various currencies in which the tender is payable (excluding provisional sums but including Dayworks where priced competitively) to Kenya Shillings at the selling rates stated in clause 25.1.

26 Evaluation and Comparison of Tenders

- 26.1 The Employer will evaluate only tenders determined to be substantially responsive to the requirements of the tender documents in accordance with clause 23.
- 26.2 In evaluating tenders, the Employer will determine for each tender the evaluated tender price by adjusting the tender price as follows:
 - (a) Making any correction for errors pursuant to clause 24.
 - (b) Excluding Provisional Sums and provision, if any, for Contingencies in the Bills of Quantities, but including Day works where priced competitively.
- 26.3 The Employer reserves the right to accept any variation, deviation or alternative offer. Variations, deviations, alternative offers and other factors which are in excess of the requirements of the tender documents or otherwise result in the accrual of unsolicited benefits to the Employer, shall not be taken into account in tender evaluation.
- 26.4 Price adjustment provisions in the Conditions of Contract applied over the period of execution of the Contract shall not be taken into account in tender evaluation.

- 26.5 If the lowest evaluated tender is seriously unbalanced or front loaded in relation to the Employer's estimate of the items of work to be performed under the Contract, the Employer may require the tenderer to produce detailed price analyses for any or all items of the Bills of Quantities, to demonstrate the relationship between those prices, proposed construction methods and schedules. After evaluation of the price analyses, the Employer may require that the amount of the Performance Security set forth in clause 29 be increased at the expense of the successful tenderer to a level sufficient to protect the Employer against financial loss in the event of subsequent default of the successful tenderer under the Contract.
- 26.6 Firms incorporated in Kenya where indigenous Kenyans own 51% or more of the share capital shall be allowed a 10% preferential bias provided that they do not sub-contract work valued at more than 50% of the Contract Price excluding Provisional Sums to a non-indigenous sub-contractor.

AWARD OF CONTRACT

27 Award

- 27.1 Subject to clause 27.2, the Employer will award the Contract to the tenderer whose tender is determined to be substantially responsive to the tender documents and who has offered the lowest evaluated tender price subject to possessing the capability and resources to effectively carry out the Contract Works.
- 27.2 The Employer reserves the right to accept or reject any tender, and to annul the tendering process and reject all tenders, at any time prior to award of Contract, without thereby incurring any liability to the affected tenderers or any obligation to inform the affected tenderers of the grounds for the Employer's action.

28 Notification of Award

- 28.1 Prior to the expiration of the period of tender validity prescribed by the Employer, the Employer will notify the successful tenderer by cable, telefax or telex and confirmed in writing by registered letter that his tender has been accepted. This letter (hereinafter and in all Contract documents called “Letter of Acceptance”) shall name the sum (hereinafter and in all Contract documents called “the Contract Price”) which the Employer will pay to the Contractor in consideration of the execution and completion of the Works as prescribed by the Contract.
- 28.2 Notification of award will constitute the formation of the Contract.
- 28.3 Upon the furnishing of a Performance Security by the successful tenderer, the unsuccessful tenderers will promptly be notified that their tenders have been unsuccessful.
- 28.4 Within twenty eight [28] days of receipt of the form of Contract Agreement from the Employer, the successful tenderer shall sign the form and return it to the Employer together with the required Performance Security.

29 Performance Guarantee

- 29.1 Within twenty eight [28] days of receipt of the notification of award from the Employer, the successful tenderer shall furnish the Employer with a Performance Security in an amount stated in the Appendix to Instructions to Tenderers.
- 29.2 The Performance Security to be provided by the successful tenderer shall be an unconditional Bank Guarantee issued at the tenderer’s option by an established and a reputable Bank approved by the Employer and located in the Republic of Kenya and shall be divided into two elements namely, a performance security payable in foreign currencies (based upon the exchange rates determined in accordance with clause 35.4 of the Conditions of Contract) and a performance security payable in Kenya Shillings. The value of the two securities shall be in the same proportions of foreign and local currencies as requested in the form of foreign currency requirements.
- 29.3 Failure of the successful tenderer to lodge the required Performance Security shall constitute a breach of Contract and sufficient grounds for the annulment of the award and forfeiture of the Tender Security and any other remedy under the Contract the Employer may award the Contract to the next ranked tenderer.

30 Advance Payment

An advance payment, if approved by the Employer, shall be made under the Contract, if requested by the Contractor, in accordance with clause 23.7 of the Conditions of Contract. The Advance Payment Guarantee shall be denominated in the proportion and currencies named in the form of foreign currency requirements. For each currency, a separate guarantee shall be issued. The guarantee shall be issued by a bank located in the Republic of Kenya, or a foreign bank through a correspondent bank located in the Republic of Kenya, in either case subject to the approval of the Employer.

APPENDIX TO INSTRUCTIONS TO TENDERERS

1. CLAUSE 2.1

Change to read “This invitation to tender is open to all eligible tenderers as per the tender advertisement notice”

2. OMIT

Clauses 4.3, 5.1 (a), (d), (f), (i), (j), 10.3, 10.4, 11.2, 11.4, 15, 25, 26.6, 30

3. MODIFY CLAUSE 5.1(h)

Form of agreement shall be as the Kenya Association of Building and Civil Engineering Contractors (KABCEC)

4. ADD TO CLAUSE 13.1

Amount of tender surety shall be **2% of the Tender Sum, from either a reputable bank or an insurance firm recommended by Public Procurement Oversight Authority (PPOA).**

5. ADD TO CLAUSE 13.2

Tender surety shall be valid for **150 days** from date of tender opening.

6. MODIFY CLAUSE 29.1

The successful tenderer shall furnish the Employer with a performance security of five per cent (5%) of tender sum within 21 days of notification of the award.

7. ADD TO CLAUSE 29.2

Performance security shall not be divided in two elements and shall be payable in Kenya Shillings Only.

8. ADD TO CLAUSE 24

- (i) In the event of a discrepancy between the tender amount as stated in the form of Tender and the corrected tender figure in the Main summary of the Bills of Quantities, the amount as stated in the Form of Tender shall prevail
- (ii) The Error correction factor shall be computed by expressing the difference between the amount and the corrected tender sum as a percentage of the corrected contract works (i.e corrected tender sum less P.C; and Provisional Sums)
- (iii) The Error correction factor shall be applied to all contract works (as a rebate or addition as the case may be) for the purposes of valuations for Interim Certificates and valuation of variations.

9. MODIFY CLAUSE 10.5

Clause 47 is not part of the Conditions of Contract Part II.

10. MODIFY CLAUSE 28.4

Replace “twenty eight (28)” with “twenty one (21)”

11. MODIFY CLAUSE 30

Advance payment shall be granted for imported materials only upon approval by the Employer, and shall be against a bank guarantee from a reputable bank located within the Republic of Kenya.

12. ADD TO CLAUSE 26

The ***Evaluation Criteria*** in the Appendix B; Pages A-18 to A-23 shall form part of the evaluation.

APPENDIX B

TENDER EVALUATION CRITERIA

After tender opening, the tenders will be evaluated in 4 stages, namely:

1. Determination of Responsiveness
2. Detailed Technical Examination
3. Financial Evaluation.
4. Combination of Technical, Tender Sums Comparison and Financial Score

STAGE 1- DETERMINATION OF RESPONSIVENESS

A) PRELIMINARY EXAMINATION

This stage of evaluation shall involve examination of the pre-qualification conditions as set out in the Tender Advertisement Notice or Letter of Invitation to Tender and any other conditions stated in the bid document.

These conditions may include the following:

- i. Category of Registration with National Construction Authority (NCA) in the relevant trade.
- ii. Class of Licenses with the relevant statutory bodies e.g. Energy Regulatory Commission, Local Authorities, Water Management Boards etc.
- iii. Proof of payment for tender document
- iv. Provision of Bid Security
- v. Dully filled Form of Tender
- vi. Any other conditions included in the advertisement notice/Invitation letter.

Note:

The bid security shall be in accordance with clauses 13 and 23.2 of Instruction to Tenderers which states as follows:

- **Clause 13.1** of Instruction to Tenderers, "the tenderers shall furnish as part of his tenders a tender surety in the amount stated in the tender document in the Appendix to Instructions to Tenderers".
- **Clause 13.2** of Instruction to Tenderers, "the unconditional Tender surety shall be in Kenya shillings and be in form of a certified cheque, bank draft, an irrevocable letter of credit or a guarantee from a reputable Bank/ Insurance approved by PPOA located in the Republic of Kenya. The format of the surety shall be in accordance with the sample form included in the tender documents and the tender surety shall be valid for **150 days** from the date of tender opening".
- **Clause 23.2** of Instruction to Tenderers: "For the purposes of this clause, a substantially responsive tender is one which conforms to all terms and condition and specifications of the tender document without material deviation or reservation and has a valid Bank/ Insurance guarantee".

The employer may seek further clarification/confirmation if necessary to confirm authenticity/compliance of any condition of the tender.

The tenderers who do not satisfy any of the above requirements shall be considered Non-Responsive and their tenders will not be evaluated further.

B) COMPLETENESS OF TENDER DOCUMENT

The tender document shall be examined based on clause 2.2 of the Instruction to Tenderers which states as follows:

In accordance with clause 2.2 of Instruction to Tenderers, the tenderers will be required to provide evidence for eligibility of the award of the tender by satisfying the employer of their eligibility under sub clause 2.1 of Instruction to Tenderers and adequacy of resources to effectively carry out the subject contract. The tenderers shall be required to fill the Standards Forms provided for the purposes of providing the required information. The tenderers may also attach the required information if they so desire.

The award of points for the **STANDARD FORMS** considered in this section shall be as shown below

<u>PARAMETER</u>	<u>MAXIMUM POINTS</u>
(i) Statement of Compliance -----	3
(ii) Tender Questionnaire - -----	5
(iii) Confidential Business Questionnaire -----	5
(iv) Key personnel - -----	15
(v) Contracts Completed in the last Five (5) years - -----	15
(vi) Schedule of on-going projects -----	10
(vii) Schedule of contractors equipment -----	10
(viii) Audited Financial Reports for the last 3 years-----	10
(ix) Evidence of Financial Resources -----	10
(x) Name, Address and Telephone of Banks (Contractor to provide) -----	5
(xi) Litigation History-----	2
(xii) Sanctity of the tender document as in accordance with clause 5 of instruction to tenderer -----	10
<u>TOTAL</u> <u>100</u>	

The detailed scoring plan shall be as shown in table 1 below: -

TABLE 1

Item	Description	Point Scored	Max. Point	
i	Statement of Compliance Signed and stamped ----- 3 Signed but not stamped or vice versa ----- 2 Not signed nor stamped ----- 0		3	
ii	Tender Questionnaire Form Completely filled ----- 5 Partially filled ----- 3 Not filled -----0		5	
iii	Confidential Business Questionnaire Form. Completely filled ----- 5 Partially filled ----- 3 Not filled ----- 0		5	
iv	Key Personnel (Attach evidence)		15	
	Director of the firm <ul style="list-style-type: none"> ○ Holder of degree or diploma in relevant Engineering field-----4 ○ Holder of certificate in relevant Engineering field-----3 ○ Holder of trade test certificate in relevant Engineering field----2 ○ No relevant certificate -----0 			4
	At least 1No. degree/diploma of key personnel in relevant Engineering field <ul style="list-style-type: none"> ○ With over 10 years relevant experience -----4 ○ With over 5 years relevant experience ----- 3 ○ With under 5 years relevant experience ----- 1 			4
	At least 1No certificate holder of key personnel in relevant Engineering field <ul style="list-style-type: none"> ○ With over 10 years relevant experience ----- 3 ○ With over 5 years relevant experience ----- 2 ○ With under 5 years relevant experience -----1 			3
	At least 2No artisan (trade test certificate in relevant Engineering field) <ul style="list-style-type: none"> ○ Artisan with over 10 years relevant experience ----- 2 ○ Artisan with under 10 years relevant experience ----- 1 ○ Non skilled worker with over 10 years relevant experience -----1 			4

v	Contract completed in the last five (5) years (Max of 5 No. Projects) <ul style="list-style-type: none"> ○ Project of similar nature, complexity and magnitude -----3 ○ Project of similar nature but of lower value than the one in consideration----- 2 ○ No completed project of similar nature ----- 0 		15
vi	On-going projects (Max of 5 No. Projects) <ul style="list-style-type: none"> ○ Project of similar nature, complexity and magnitude ----- 2 ○ Project of similar nature but of lower value than the one in consideration -----1 ○ No ongoing project of similar nature - -----0 		10
vii	Schedule of contractors equipment and transport (proof or evidence of ownership) <ul style="list-style-type: none"> ○ Means of transport (Vehicle) ----- 4 ○ No means of transport ----- 0 	4	10
	For each specific equipment required in the installation of the Work being tendered for. (Maximum No. of equipment to be considered - 3 No.) ----- 2	6	
viii	Financial report		10
	Audited financial report (last three (3) years) <ul style="list-style-type: none"> ○ Turn over greater or equal to 5 times the cost of the project --- 10 ○ Turn over greater or equal to 3 times the cost of the project ----- 6 ○ Turn over greater or equal to the cost of the project ----- 4 ○ Turn over below the cost of the project ----- 2 		
ix	Evidence of Financial Resources (cash in hand, lines of credit, over draft facility etc) <ul style="list-style-type: none"> ○ Has financial resources equal or above the cost of the project-- 10 ○ Has financial resources below the cost of the project -----5 ○ Has not indicated sources of financial resources -----0 		10
x	Name, Address and Telephone of Banks (Contractor to provide) <ul style="list-style-type: none"> ○ Provided ----- 5 ○ Not provided ----- 0 		5
xi	Litigation History <ul style="list-style-type: none"> ○ Filled -----2 ○ Not filled -----0 		2
xii	Sanctity of the tender document <ul style="list-style-type: none"> ○ Having the document intact (not tempered with in any way) -----10 ○ Having mutilated or modified the tender document-----0 		10
	TOTAL		100

Any bidder who scores 60 points and above shall be considered for further evaluation

STAGE 2 - TECHNICAL EVALUATION

A) COMPLIANCE WITH TECHNICAL SPECIFICATIONS

In this section, the bid will be analyzed to determine compliance with General and Particular technical specifications for the works as indicated in the tender document.

The tenderer shall fill in the Technical Schedule as specified in the tender document for Equipment and Items indicating the Country of Origin, Model/Make/Manufacturer of the Item/Equipment they propose to supply.

Where the Equipment proposed by the tenderer differs with the models specified in the tender document, it is mandatory that the brochures/catalogues of the same be submitted with the tender document highlighting the catalogues Numbers of the proposed items. Such brochures/catalogues should indicate comprehensive relevant data of the proposed equipment/items which should include but not limited to the following:

- a) Standards of manufacture
- b) Performance ratings/characteristics
- c) Material of manufacture
- d) Electrical power ratings and
- e) Any other necessary requirements (Specify)

Following the above analyses, where the proposed equipment are found not to satisfy the specifications, the tender will be deemed Non - Responsive and will not be evaluated further.

B) TECHNICAL EXAMINATION

In this section, the information provided in the Technical Schedule or Brochures attached will be analyzed for bidders who have qualified from **STAGE 2A** above and points awarded as shown below to a maximum of 50 points

TABLE 2

Item	Description	Score	Max. score
	<p>Technical schedule/Bronchures</p> <ul style="list-style-type: none"> ○ Relevant Manufacturer Brochures for items in the technical schedule with equipments to be supplied highlighted and meets specification (Where alternative are to supplied----- 50 or ○ Completely filled Technical Schedule indicating Brand, Model/ Country of origin as per specification in the tender----- 50 ○ Relevant Manufacturer Brochures for items in the technical schedule with equipments to be supplied not highlighted but within range of those specified and meets specifications ----- 40 or ○ Completely filled Technical Schedule indicating items as specified in the tender but with over 75% of items in the technical schedule provided--- ----- 40 ○ Relevant Manufacturer Brochures for less than 75% of items in the technical schedule with equipments to be supplied highlighted and meets specifications----- 30 or ○ Less than 75% of Technical Schedule filled indicating Brand, Model/Country of origin for the items considered as specified in the tender-----30 ○ No technical data provided, either in form of brochures or filling of Technical Schedule. ----- 0 		50
	TOTAL		50

The Technical score will be carried forward to **STAGE 4**

STAGE 3 - FINANCIAL EVALUATION

The evaluation shall be in two sections

1. Preliminary examinations and
2. Tender sum Comparisons

A) PRELIMINARY EXAMINATIONS

The preliminary examination in the Financial Evaluation shall be in accordance with clause 26 of Instruction to Tenderers.

The parameter to be considered under this section includes the following:

- a) Arithmetic errors and comparison of rates

(1) Arithmetic Errors

The bid shall be checked for arithmetic errors based on the rates and the total sums indicated in the bills of quantities.

- a) Confirmation shall be sought in writing from the tenderers whose tender sums will be determined to have a significant arithmetic error to their disadvantage, to confirm whether they stand by their tender sums. The error shall be treated as per **clause 24 of Instructions to Tenderers**.

Non compliance with the above shall lead to **automatic disqualification from further evaluation**.

Discount if any shall be treated as an error in pursuant to **clause 26.3** of Instructions to Tenderers

(2) Comparison of rates

The evaluation committee will compare rates from different bidders and note consistency of rates and front loading. The evaluation committee will judge and make an appropriate decision giving evidence.

B) TENDER SUMS COMPARISONS

In this section, tender sums will be compared to the average of all sums for bidders who have qualified from **STAGE 3A** and score awarded to a maximum of 20 as shown below.

1 Preliminary Average

- i. The tender sums of various binders, who qualify at **STAGE 3A** and the engineer's estimates, shall be reduced by omitting PC sums, provisional sums and contingency from the respectful amounts. The **average** of the adjusted tender sums so obtained shall be calculated.
- ii. Any tenderer whose tender percentage deviation is 20% higher or lower than the average obtained above, will be deemed to be unreasonably high or low and shall not be included in determining the mean in table 3, However their bids will still be evaluated further. The Engineer's estimate will also be subjected to the same treatment.

2. Working mean

The detailed scoring plan shall be as shown in table 3 below:

TABLE 3

Item	Description	Scores	Score	Max.Score
i	<ul style="list-style-type: none"> ▪ Tender Sums: (The tender sums of bidders, who qualify at STAGE 3A and the engineer's estimates, shall be reduced by omitting PC sums, provisional sums and contingency from the respectful amounts. ▪ The average of the reduced amounts so obtained shall be calculated. ▪ The deviation of the reduced amounts in respect of each bidder from the average shall then be worked out as a percentage of the average (Rounded off to one (1) decimal point) and scores allocated as follows :- 			20
1	Deviation of between 0 % and 1 % -----	20		
2	Deviation of between 1.1% and 2 % -----	19		
3	Deviation of between 2.1% and 3 % -----	18		
4	Deviation of between 3.1% and 4 % -----	17		
5	Deviation of between 4.1% and 5 % -----	16		
6	Deviation of between 5.1% and 6 % -----	15		
7	Deviation of between 6.1% and 7 % -----	14		
8	Deviation of between 7.1% and 8 % -----	13		
9	Deviation of between 8.1% and 9 % -----	12		
10	Deviation of between 9.1% and 10 % -----	11		
11	Deviation of between 10.1% and 11 % -----	10		
12	Deviation of between 11.1% and 12 % -----	9		
13	Deviation of between 12.1% and 13 % -----	8		
14	Deviation of between 13.1% and 14 % -----	7		
15	Deviation of between 14.1% and 15 % -----	6		
16	Deviation of between 15.1% and 16 % -----	5		
17	Deviation of between 16.1% and 17 % -----	4		
18	Deviation of between 17.1% and 18 % -----	3		
19	Deviation of between 18.1% and 19 % -----	2		
20	Deviation of between 19.1% and 20 % -----	1		
21	Deviation of 20.1% and above -----	0		
	Total			20

The Tender sum score will be carried forward to **STAGE 4**

C) FINANCIAL SCORE

The financial score (Fs) will be determined by comparing tender sums from all responsive bidders using the formulae below. The financial score will be allocated a maximum of 30%.

$$F_s = 30 \times F_m / F$$

Where F_s is the financial score, F_m is the lowest priced responsive financial bid and F is the price of the bid under consideration

STAGE 4 - FINAL SCORE

The total score will be combined sums of Technical, Tender Sums Comparison and Financial marks as below:

$$\text{Total} = \text{Technical (Ts)} + \text{Tender Sums Comparison (TSC)} + \text{Financial (Fs)}$$

$$\text{Total} = T_s + TSC + F_s$$

(i.e. Maximum Score: 50% + 20% + 30% = 100%)

RECOMMENDATION

The lowest responsive bidder who score 75% and above may be recommended for award.

SECTION B

CONDITIONS OF CONTRACT

AND

SUB-CONTRACT AGREEMENT

CONDITIONS OF CONTRACT

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CONDITIONS OF CONTRACT

Definitions

In this Contract, except where context otherwise requires, the following terms shall be interpreted as indicated;

“Bills of Quantities” means the priced and completed Bill of Quantities forming part of the tender [where applicable].

“Schedule of Rates” means the priced Schedule of Rates forming part of the tender [where applicable].

“The Completion Date” means the date of completion of the Works as certified by the Employer’s Representative.

“The Contract” means the agreement entered into by the Employer and the Contractor as recorded in the Agreement Form and signed by the parties.

“The Contractor” refers to the person or corporate body whose tender to carry out the Works has been accepted by the Employer.

“The Contractor’s Tender” is the completed tendering document submitted by the Contractor to the Employer.

“The Contract Price” is the price stated in the Letter of Acceptance.

“Days” are calendar days; **“Months”** are calendar months.

“A Defect” is any part of the Works not completed in accordance with the Contract.

“The Defects Liability Certificate” is the certificate issued by Employer’s Representative upon correction of defects by the Contractor.

“The Defects Liability Period” is the period named in the Appendix to Conditions of Contract and calculated from the Completion Date.

“Drawings” include calculations and other information provided or approved by the Employer’s Representative for the execution of the Contract.

“Employer” includes Central or Local Government administration, Universities, Public Institutions and Corporations and is the party who employs the Contractor to carry out the Works.

“Equipment” is the Contractor’s machinery and vehicles brought temporarily to the Site for the execution of the Works.

“Site” means the place or places where the permanent Works are to be carried out including workshops where the same is being prepared.

“Materials” are all supplies, including consumables, used by the Contractor for incorporation in the Works.

“Employer’s Representative” is the person appointed by the Employer and notified to the Contractor for the purpose of supervision of the Works.

“Specification” means the Specification of the Works included in the Contract.

“Start Date” is the date when the Contractor shall commence execution of the Works.

“A Sub-contractor” is a person or corporate body who has a Contract with the Contractor to carry out a part of the Work in the Contract, which includes Work on the Site.

“Temporary works” are works designed, constructed, installed, and removed by the Contractor which are needed for construction or installation of the Works.

“A Variation” is an instruction given by the Employer’s Representative which varies the Works.

“The Works” are what the Contract requires the Contractor to construct, install, and turnover to the Employer.

1. Contract Documents

2.1 The following documents shall constitute the Contract documents and shall be interpreted in the following order of priority;

- (1) Agreement,
- (2) Letter of Acceptance,
- (3) Contractor’s Tender,
- (4) Conditions of Contract,
- (5) Specifications,
- (6) Drawings,
- (7) Bills of Quantities or Schedule of Rates [whichever is applicable]

2. Employer’s Representative’s Decisions

2.1 Except where otherwise specifically stated, the Employer’s Representative will decide contractual matters between the Employer and the Contractor in the role representing the Employer.

4. Works, Language and Law of Contract

- 4.1 The Contractor shall construct and install the Works in accordance with the Contract documents. The Works may commence on the Start Date and shall be carried out in accordance with the Programme submitted by the Contractor, as updated with the approval of the Employer's Representative, and complete them by the Intended Completion Date.
- 4.2 The ruling language of the Contract shall be English language and the law governing the Contract shall be the law of the Republic of Kenya.

5. Safety, Temporary works and Discoveries

- 5.1 The Contractor shall be responsible for design of temporary works and shall obtain approval of third parties to the design of the temporary works where required.
- 5.2 The Contractor shall be responsible for the safety of all activities on the Site.
- 5.3 Anything of historical or other interest or significant value unexpectedly discovered on the Site shall be the property of the Employer. The Contractor shall notify the Employer's Representative of such discoveries and carry out the Employer's Representative's instructions for dealing with them.

6. Work Programme and Sub-contracting

- 6.1 Within seven days after Site possession date, the Contractor shall submit to the Employer's Representative for approval a programme showing the general methods, arrangements, order and timing for all the activities in the Works.
- 6.2 The Contractor may sub-contract the Works (but only to a maximum of 25 percent of the Contract Price) with the approval of the Employer's Representative. However, he shall not assign the Contract without the approval of the Employer in writing. Sub-contracting shall not alter the Contractor's obligations.

7. The site

- 7.1 The Employer shall give possession of all parts of the Site to the Contractor.
- 7.2 The Contractor shall allow the Employer's Representative and any other person authorised by the Employer's Representative access to the Site and to any place where work in connection with the Contract is being carried out or is intended to be carried out.

8. Instructions

- 8.1 The Contractor shall carry out all instructions of the Employer's Representative which are in accordance with the Contract.

9. Extension of Completion Date

- 9.1 The Employer's Representative shall extend the Completion Date if an occurrence arises which makes it impossible for completion to be achieved by the Intended Completion Date. The Employer's Representative shall decide whether and by how much to extend the Completion Date.
- 9.2 For the purposes of this Clause, the following occurrences shall be valid for consideration;
Delay by: -
- (a) force majeure, or
 - (b) reason of any exceptionally adverse weather conditions, or
 - (c) reason of civil commotion, strike or lockout affecting any of the trades employed upon the Works or any of the trades engaged in the preparation, manufacture or transportation of any of the goods or materials required for the Works, or
 - (d) reason of the Employer's Representative's instructions issued under these Conditions, or
 - (e) reason of the contractor not having received in due time necessary instructions, drawings, details or levels from the Employer's Representative for which he specifically applied in writing on a date which having regard to the date for Completion stated in the appendix to these Conditions or to any extension of time then fixed under this Clause was neither unreasonably distant from nor unreasonably close to the date on which it was necessary for him to receive the same, or
 - (f) delay on the part of artists, tradesmen or others engaged by the Employer in executing work not forming part of this Contract, or
 - (g) reason of delay by statutory or other services providers or similar bodies engaged directly by the Employer, or
 - (h) reason of opening up for inspection of any Work covered up or of the testing or any of the Work, materials or goods in accordance with these conditions unless the inspection or test showed that the Work, materials or goods were not in accordance with this Contract, or
 - (i) reason of delay in appointing a replacement Employer's Representative, or
 - (j) reason of delay caused by the late supply of goods or materials or in executing Work for which the Employer or his agents are contractually obliged to supply or to execute as the case may be, or
 - (k) delay in receiving possession of or access to the Site.

10. Management Meetings

- 10.1 A Contract management meeting shall be held regularly and attended by the Employer's Representative and the Contractor. Its business shall be to review the plans for the remaining Work. The Employer's Representative shall record the business of management meetings and provide copies of the record to those attending the meeting and the Employer. The responsibility of the parties for actions to be taken shall be decided by the Employer's Representative either at the management meeting or after the management meeting and stated in writing to all who attend the meeting.
- 10.2 Communication between parties shall be effective only when in writing.

11. Defects

- 11.1 The Employer's Representative shall inspect the Contractor's work and notify the Contractor of any defects that are found. Such inspection shall not affect the Contractor's responsibilities. The Employer's Representative may instruct the Contractor to search for a defect and to uncover and test any Work that the Employer's Representative considers may have a defect. Should the defect be found, the cost of uncovering and making good shall be borne by the Contractor. However, if there is no defect found, the cost of uncovering and making good shall be treated as a variation and added to the Contract Price.
- 11.2 The Employer's Representative shall give notice to the Contractor of any defects before the end of the Defects Liability Period, which begins at Completion, and is defined in the Appendix to Conditions of Contract.
- 11.3 Every time notice of a defect is given, the Contractor shall correct the notified defect within the length of time specified by the Employer's Representative's notice. If the Contractor has not corrected a defect within the time specified in the Employer's Representative's notice, the Employer's Representative will assess the cost of having the defect corrected by other parties and such cost shall be treated as a variation and be deducted from the Contract Price.

12. Bills of Quantities/Schedule of Rates

- 12.1 The Bills of Quantities/Schedule of Rates shall contain items for the construction, installation, testing and commissioning of the Work to be done by the Contractor. The Contractor will be paid for the quantity of the Work done at the rates in the Bills of Quantities/Schedule of Rates for each item. Items against which no rate is entered by the Tenderer will not be paid for when executed and shall be deemed covered by the rates for other items in the Bills of Quantities/Schedule of Rates.
- 12.2 Where Bills of Quantities do not form part of the Contract, the Contract Price shall be a lump sum (which shall be deemed to have been based on the rates in the Schedule of Rates forming part of the tender) and shall be subject to re-measurement after each stage.

13. Variations

- 13.1 The Contractor shall provide the Employer's Representative with a quotation for carrying out the variations when requested to do so. The Employer's Representative shall assess the quotation and shall obtain the necessary authority from the Employer before the variation is ordered.
- 13.2 If the Work in the variation corresponds with an item description in the Bill of Quantities/Schedule of Rates, the rate in the Bill of Quantities/Schedule of Rates shall be used to calculate the value of the variation. If the nature of the Work in the variation does not correspond with items in the Bill of Quantities/Schedule of Rates, the quotation by the Contractor shall be in the form of new rates for the relevant items of Work.
- 13.3 If the Contractor's quotation is unreasonable, the Employer's Representative may order the variation and make a change to the Contract Price, which shall be based on the Employer's Representative's own forecast of the effects of the variation on the Contractor's costs.

14. Payment Certificates and Final Account

- 14.1 The Contractor shall be paid after each of the following stages of Work listed herebelow (subject to re-measurement by the Employer's Representative of the Work done in each stage before payment is made). In case of lump-sum Contracts, the valuation for each stage shall be based on the quantities so obtained in the re-measurement and the rates in the Schedule of Rates.
 - (i) Advance payment **NIL** (*percent of Contract Price, [after Contract execution] to be inserted by the Employer*).
 - (ii) First stage (*define stage*) **AS PER PROGRESS**
 - (iii) Second stage (*define stage*) **AS PER PROGRESS**
 - (iv) Third stage (*define stage*) **AS PER PROGRESS**
 - (v) After defects liability period.
- 14.2 Upon deciding that Works included in a particular stage are complete, the Contractor shall submit to the Employer's Representative his application for payment. The Employer's Representative shall check, adjust if necessary and certify the amount to be paid to the Contractor within 21 days of receipt of the Contractor's application. The Employer shall pay the Contractor the amounts so certified within 30 days of the date of issue of each Interim Certificate.

- 14.3 The Contractor shall supply the Employer's Representative with a detailed final account of the total amount that the Contractor considers payable under the Contract before the end of the Defects Liability Period. The Employer's Representative shall issue a Defect Liability Certificate and certify any final payment that is due to the Contractor within 30 days of receiving the Contractor's account if it is correct and complete. If it is not, the Employer's Representative shall issue within 21 days a schedule that states the scope of the corrections or additions that are necessary. If the final account is still unsatisfactory after it has been resubmitted, the Employer's Representative shall decide on the amount payable to the Contractor and issue a Final Payment Certificate. The Employer shall pay the Contractor the amount so certified within 60 days of the issue of the Final Payment Certificate.
- 14.4 If the period laid down for payment to the Contractor upon each of the Employer's Representative's Certificate by the Employer has been exceeded, the Contractor shall be entitled to claim simple interest calculated pro-rata on the basis of the number of days delayed at the

Central Bank of Kenya's average base lending rate prevailing on the first day the payment becomes overdue. The Contractor will be required to notify the Employer within 15 days of receipt of delayed payments of his intentions to claim interest.

15. Insurance

- 15.1 The Contractor shall be responsible for and shall take out appropriate cover against, among other risks, personal injury; loss of or damage to the Works, materials and plant; and loss of or damage to property.

16. Liquidated Damages

- 16.1 The Contractor shall pay liquidated damages to the Employer at the rate 0.001 per cent of the Contract price per day for each day that the actual Completion Date is later than the Intended Completion Date except in the case of any of the occurrences listed under Clause 9.2. The Employer may deduct liquidated damages from payments due to the Contractor. Payment of liquidated damages shall not affect the Contractor's liabilities.

17. Completion and Taking Over

- 17.1 Upon deciding that the Work is complete the Contractor shall request the Employer's Representative to issue a Certificate of Completion of the Works, upon deciding that the Work is completed. The Employer shall take over the Site and the Works within seven days of the Employer's Representative issuing a Certificate of Completion.

18. Termination

- 18.1 The Employer or the Contractor may terminate the Contract if the other party causes a fundamental breach of the Contract. These fundamental breaches of Contract shall include, but shall not be limited to, the following;
- (a) the Contractor stops Work for 30 days continuously without reasonable cause or authority from the Employer's Representative;
 - (b) the Contractor is declared bankrupt or goes into liquidation other than for a reconstruction or amalgamation;
 - (c) a payment certified by the Employer's Representative is not paid by the Employer to the Contractor within 30 days after the expiry of the payment periods stated in Sub-Clauses 14.2 and 14.3 hereabove.
 - (d) the Employer's Representative gives notice that failure to correct a particular defect is a fundamental breach of Contract and the Contractor fails to correct it within a reasonable period of time.
- 18.2 If the Contract is terminated, the Contractor shall stop Work immediately, and leave the Site as soon as reasonably possible. The Employer's Representative shall immediately thereafter arrange for a meeting for the purpose of taking record of the Works executed and materials, goods, equipment and temporary buildings on Site.

19. Payment Upon Termination

- 19.1 The Employer may employ and pay other persons to carry out and complete the Works and to rectify any defects and may enter upon the Works and use all materials on Site, plant, equipment and temporary works.
- 19.2 The Contractor shall, during the execution or after the completion of the Works under this Clause, remove from the Site as and when required within such reasonable time as the Employer's Representative may in writing specify, any temporary buildings, plant, machinery, appliances, goods or materials belonging to him, and in default thereof, the Employer may (without being responsible for any loss or damage) remove and sell any such property of the Contractor, holding the proceeds less all costs incurred to the credit of the Contractor.
- 19.3 Until after completion of the Works under this Clause, the Employer shall not be bound by any other provision of this Contract to make any payment to the Contractor, but upon such completion as aforesaid and the verification within a reasonable time of the accounts therefore the Employer's Representative shall certify the amount of expenses properly incurred by the Employer and, if such amount added to the money paid to the Contractor before such determination exceeds the total amount which would have been payable on due completion in accordance with this Contract, the difference shall be a debt payable to the Employer by the Contractor; and if the said amount added to the said money be less than the said total amount, the difference shall be a debt payable by the Employer to the Contractor.

20. Corrupt Gifts and Payments of Commission

20.1 The Contractor shall not:

- (a) Offer or give or agree to give to any person in the service of the Employer any gifts or consideration of any kind as an inducement or reward for doing or forbearing to do or for having done or forborne to do any act in relation to the obtaining or execution of this or any other contract with the Employer or for showing or forbearing to show favour or disfavour to any person in relation to this or any other contract with the Employer.
- (b) Any breach of this Condition by the Contractor or by anyone employed by him or acting on his behalf (whether with or without the knowledge of the Contractor) shall be an offence under the Laws of Kenya.

21. Settlement of Disputes

21.1 Any dispute arising out of the Contract which cannot be amicably settled between the parties shall be referred by either party to the arbitration and final decision of a person to be agreed between the parties. Failing agreement to concur in the appointment of an Arbitrator, the Arbitrator shall be appointed by the chairman of the Chartered Institute of Arbitrators, Kenya branch, on the request of the applying party.

**APPENDIX TO CONDITIONS OF CONTRACT- APPLICABLE TO SUB-
CONTRACT**

THE EMPLOYER IS

Name: **Government of the Republic of Kenya**
Represented By: **The Vice Chancellor,**
Masinde Muliro University Of Science & Technology,

Address: P.O.Box 190-501000, KAKAMEGA.

Name of Employer's Representative: **University Architect,**
Address: **P.O. Box 190-50100, Kakamega.**

The name (and identification number) of the Contract is **Proposed 100KVA (PRIME) STANDBY GENERATOR at Anatomy Lab in MMUST.**

Tender No. MMUST/PDU/01/2017-2018

The Works consist of **Supply, installation, testing and commissioning of 100 KVA (PRIME RATED) STANDBY GENERATOR Installation works for Proposed Anatomy Lab in MMUST.**

The Start Date shall be **as per the Sub-Contract Agreement (KABCEC).**

The Intended Completion Date for the whole of the Works shall be **as per the Sub-Contract Agreement (KABCEC).**

The following documents also form part of the Contract:

1. **Agreement-** Agreement as per the Sub-Contract Agreement (KABCEC) signed between the Main Contractor and Sub-Contractor.
2. **Letter of Acceptance-** Letter addressed to the Main Contractor by the Project Manager instructing the Main Contractor to enter into Sub-Contract Agreement with the nominated Sub-Contractor.
3. **Contractors Tender-** The completed tendering document submitted by the Sub-Contractor to the employer.
4. **Conditions of Contract-** Refers to the Conditions of Contract in the main works and conditions of Sub-Contract as described in the Sub-Contract Agreement (KABCEC).
5. **Specifications-** Specifications of Sub-Contract works as described in this document.
6. **Drawings-** Drawings as described in this document.
7. **Bills of quantities/Schedule of Unit Rates-** As described in this document.

The Site Possession Date shall be **as per the Sub-Contract Agreement (KABCEC).**

The Site is located within **Masinde Muliro University of Science & Technology in Kakamega town along Kakamega-webuye Road.**

The Defects Liability Period is **6 Months from practical completion date.**

Amount of Tender Security shall be **2% of the Tender Sum, from either a reputable bank or an insurance firm recommended by Public Procurement Oversight Authority (PPOA).**

The name and Address of the Employer's representative for the purposes of submission of tenders is **University Architect, P.O.Box 190-50100, Kakamega.**

The tender opening date and time is **as per advertisement notice.**

The amount of performance security is **5 percent** bank guarantee of the Tender sum.

Liquidated and Ascertained damages: **at the rate Kshs. 5,000/= per week or part thereof.**

Period of honouring certificate : **45 days**

Percentage of certified value retained: **10%**

Limit of certified value retained : **5%**

PART II

SUB-CONTRACT AGREEMENT (KABCEC)

**AGREEMENT AND CONDITIONS
OF SUB-CONTRACT FOR
BUILDING WORKS**



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with the sanction of:
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and
The Architectural Association of Kenya

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ORIGINAL
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COUNTERPART
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1.0 AGREEMENT

1.1 This agreement is made on
between
of (or whose registered office is situated at)
.....
(hereinafter called “the Contractor”) of the one part
and
of (or whole registered office is situated at)
.....
(hereinafter called “the Sub-Contractor”) of the other part:

1.2 SUPPLEMENTAL to an agreement(hereinafter referred to as the “the main contract”)
made on
Between
.....
(hereinafter called “the Employer”) of the one part and the Contractor of the other part based on the Agreement and Conditions of Contract for Building Works, published by the Joint Building Council, Kenya
..... edition.

1.3 WHEREAS the contractor is desirous of sub-letting to the Sub-Contractor
.....
.....
.....

hereinafter called “the sub-contractor works” at.....

on Land Reference No.....being part of the main contract works.

1.4 And whereas the Su-Contractor has supplied the Contractor with a priced copy of the bills of quantities (hereinafter referred to as “the sub-contractor bills”), where applicable, which together with the drawings numbered.....

.....
(hereinafter referred to as “the sub-contract drawings), the specifications and the conditions of sub-contract have been signed by or on behalf of the parties thereto.

And whereas the Sub-Contractor has had reasonable opportunity of inspecting the main contract or a copy thereof except the detailed prices of the Contractor included in the bills of quantities or schedule of rates.

1.5 And whereas the Architect, with the approval of the Employer, has nominated the Sub-Contractor to carry out the works described at clause 1.3 herein:

NOW IT IS HEREBY AGREED AS FOLLOWS:

1.6 For the consideration herein stated, the Sub-Contractor shall upon and subject to the conditions annexed hereto carry out and complete the sub-contract works shown upon the sub-contract drawings and described by or referred to in the sub-contract bills, specifications and in the said conditions.

1.7 The Contractor shall pay the Sub-Contractor the sum of the Kshs (in words).....

.....
.....Kshs.....)
(hereinafter referred to as “the sub-contractor price”) or such sum as shall become payable hereinafter at the times and in manner specified in the said conditions.

1.8 The term ‘Architect’, ‘Quantity Surveyor’ and ‘Engineer’, where applicable, shall refer to the persons appointed by the Employer to administer the sub-contract in accordance with the main contract agreement. Where applicable reference to the Architect shall be deemed to include reference to the Engineer.

1.9 In the even of the need to appoint a replacement Architect, Quantity Surveyor, Engineer or other specialist (whether named in this agreement or not) the Employer shall make such appointment as soon as practicable after the need for such appointment arises and shall communicate the appointment to the Sub-Contract through the Contractor.

1.10 Where the sub-contract does not incorporate bills of quantities, the term “sub-contract bills” and “bills of quantities” wherever appearing shall be deemed deleted and replaced with the term “schedule of rates” as applicable.

1.11 The terms defined in clause 1.0 of the main contract shall have the same meaning in this sub-contract as that assigned to them therein.

1.12 AS WITNESS the hands of the said parties;

Signed by the said

.....(Contractor)

In the presence of

Name

Address

Signed by the said

.....(Sub-Contractor)

In the presence of

Name

Address

CONDITIONS OF SUB-CONTRACT

2.0 GENERAL OBLIGATIONS OF THE CONTRACTOR

The Contractor shall:

- 2.1 Timeously obtain from the Architect on behalf of the Sub-Contractor all drawings, necessary details, instructions and other information required by the Sub-Contractor for the proper carrying out of the sub-contract works.
- 2.2 Provide all such facilities and attend upon the Sub-Contractor as required and as provided in the specifications, bills of quantities and these conditions to the extent compatible with the provisions of the main contract
- 2.3 Observe, perform and comply with all the provisions of the main contract and of this sub-contract on the part of the Contractor to be observed, performed and complied with to ensure satisfactory completion of the sub-contract works.

3.0 GENERAL OBLIGATIONS OF THE SUB-CONTRACTOR

- 3.1 The Sub-Contractor shall be deemed to have notice of all the provisions of the main contract except the detailed prices of the Contractor included in the bills of quantities or in the schedule of rates.
- 3.2 The Sub-Contractor shall carry out and complete the sub-contract works in accordance with this sub-contract and in all respects to the reasonable satisfaction of the Contractor and of the Architect and in conformity with all reasonable directions and requirements of the Contractor regulating the due carrying out of the contract works.
- 3.3 The Sub-Contractor shall observe, perform and comply with all the provisions of the main contract on the part of the Sub-Contractor to be observed, performed and complied with so far as they relate and apply to the sub-contract works or any portion thereof and are not inconsistent with the expressions of this sub-contract as if all the same were set out herein.
- 3.4 Without prejudice to the generality of the foregoing requirements, the Sub-Contractor shall especially observe perform and comply with the provisions of clauses 9.0, 18.0, 19.0 22.0, 30.0, 31.0, 34.0 and 36.0 of the main contract as they apply to the sub-contract works

4.0 SUB-CONTRACT DOCUMENTS

- 4.1 The sub-contract documents for use in the carrying out of the sub-contract works shall be:-
 - 4.1.1 The agreement and these conditions
 - 4.1.2 The sub-contract drawings as listed in the agreement
 - 4.1.3 The sub-contract bill of quantities or schedule of rates as applicable
 - 4.1.4 The specifications as separately supplied or as contained in the sub-contract bills.
- 4.2 Upon the execution of the sub-contract, the Contractor shall register the agreement with the relevant statutory authority and pay all fees, charges, taxes, duties and all costs arising therefrom.
- 4.3 The manner of supplying contract documents, their custody, display on site and their interpretation in the event of discrepancies shall be as provided in the main contract in respect of the main contract documents with the necessary amendments made to refer to the sub-contract.

5.0 GENERAL LIABILITY OF THE SUB-CONTRACTOR

- 5.1 The Sub-Contractor shall be liable for and shall indemnify the Contractor against and from:
 - 5.1.1 Any breach, non-observance or non-performance by the Sub-Contractor, his servants or agents of any of the said provisions of the main contract and of this sub-contract.
 - 5.1.2 Any act or omission of the Sub-Contractor, his servants or agents which involve the Contractor in any liability to the Employer under the main contract
 - 5.1.3 Any claim, damage, loss or expense due to or resulting from any negligence or breach of duty on the part of the Sub-Contractor, his servants or agents.
 - 5.1.4 Any loss or damage resulting from any claim under any statute or common law by an employee of the Sub-Contractor in respect of personal injury or death arising out of or in the course of his employment.

- 5.2 Provided that nothing contained in this sub-contract shall impose any liability on the Sub-Contractor in respect of any negligence or breach of duty on the part of the Employer, the Contractor, other sub-contractors or their respective servants or agents nor create any privity of contract between the Sub-Contractor and the Employer or any other sub-contractor.

6.0 INSURANCE AGAINST INJURY TO PERSONS AND PROPERTY

- 6.1 Without prejudice to his liability to indemnify the Contractor under clause 5.0 above, the Sub-Contractor shall maintain:-
- 6.1.1 Such insurances as are necessary to cover the liability of the Sub-Contractor in respect of injury or damage to property including damage to the works arising out of or in the course of or by reason of the carrying out of the sub-contract works except for liability against the contingencies specified at clause 6.3 herein.
- 6.1.2 The insurances required under sub clause 6.1.1 and 6.1.2 above shall be placed with insurers approved by the Contractor and the Architect.
- 6.2 Notwithstanding the provisions of clause 23.0 of these conditions, the Contractor shall not be obliged to make payments to the Sub-Contractor before the said policies have been provided.
- 6.3 Where clause 13.0 of the main contract applies, the sub-contract works, including materials and goods of the sub-Contractor delivered to the works, shall as regards loss or damage by the contingencies stated at clause 13.0 therein, namely, fire, earthquake, fire following earthquake, lightning, explosion, storm, tempest, flood, bursting or overflowing of water tanks, apparatus or pipes, aircraft and other aerial devices or articles dropped therefrom, riot and civil commotion, be at the sole risk of the contractor. The Contractor shall cover his liability for the works by procuring insurances as required in the said clause.
- 6.4 Where clause 14.0 or 15.0 of the main contract applies, the sub-contract works, including materials and goods of the Sub-Contractor delivered to the works shall, as regards loss or damage by the contingencies stated therein be at the sole risk of the Employer. The Employer shall cover his liability for the works by procuring insurances as required in the said clause.

- 6.5** The Sub-Contractor shall observe and comply with the conditions contained in the policy or policies of insurance of the Contractor or of the Employer, as the case may be, as regards loss or damage which may be caused by the stated contingencies. For this purpose, the Contractor or the Employer as the case may be, shall avail the said policies to the Sub-Contractor for his perusal.
- 6.6** If any loss or damage affecting the sub-contract works or any part thereof or any unfixed goods or materials is occasioned by any one or more of the said contingencies, then,
- 6.6.1 The occurrence of such loss or damage shall be disregarded in computing any amounts payable to the Sub-Contractor under the sub-contract, and
- 6.6.2 The Sub-Contractor shall, with due diligence, restore the work damaged, replace or repair any unfixed materials or goods which have been destroyed or damaged, remove and dispose of any debris and proceed with the carrying out and completion of the sub-contract works.
- 6.6.3 The restoration of work damaged the replacement and repair of unfixed materials and goods and the removal of debris shall be deemed to be a variation required by the Architect. Such work shall be paid for in accordance with clause 30.0 of the main contract.

7.0 PERFORMANCE BOND

Before commencing the works, the Sub-Contractor shall provide one surety who must be an established bank or insurance company to the approval of the Contractor and who will be bound to the Contractor in the sum equivalent to seven and a half per cent (7.5%) of the sub-contract price for the due performance of the sub-contract until the certified date of practical completion. Notwithstanding the provisions of clause 23.0 of these conditions, no payments shall be made to the Sub-Contractor before the said bond is provided.

8.0 POSSESSION OF SITE AND COMMENCEMENT OF WORKS

- 8.1** Within the period stated in the appendix to these conditions, the Contractor shall give possession of the site works to the Sub-Contractor and such access as may be necessary to enable the Sub-Contractor to commence and proceed with the sub-contract works in accordance with the sub-contract.
- 8.2** On or before the date for commencement of works stated in the appendix to these conditions, the Sub-Contractor shall commence the carrying out of the sub-contract works and shall proceed regularly and diligently with the same in accordance with the sub-contract programme, the main contract programme and or with the progress of the main contract works and complete on or before the

date stated in the appendix to these conditions as the date for practical completion or within any extended time granted under clause 25.0 of these conditions.

9.0 ARCHITECT'S INSTRUCTIONS

- 9.1 The Sub-Contractor shall forthwith comply with all the instructions issued to him by the Architect, either directly or through the Contractor, in regard to any matter in respect of which the Architect is expressly empowered by the main contract conditions to issue instructions.
- 9.2 The manner of complying with or querying the validity of an Architect's instruction shall be as provided in clause 22.0 of the main contract. The Sub-Contractor shall not be obliged to carry out instructions not issued in the manner provided therein.

10.0 VARIATIONS

- 10.1 The term "variation" shall have the meaning assigned to it at clause 30.0 of the main contract.
- 10.2 The valuation of variations shall be made by the Quantity Surveyor in accordance with sub-clause 30.6 of the main contract.
- 10.3 Effect shall be given to the measurement and valuation of variations in interim certificates and by the adjustment of the sub-contract price.

11.0 LIABILITY FOR OWN EQUIPMENT

The construction equipment and other property belonging to or provided by the Sub-Contractor and brought onto the site for carrying out the works shall be at the sole risk of the Sub-Contractor. Any loss or damage to the same or caused by the same shall, except for any loss or damage due to any negligence, omission or default of the Contractor, be at the sole risk of the Sub-Contractor who shall indemnify the Contractor against loss, damage or claims in respect thereof. Insurance against any such loss, damage or claims shall be the sole responsibility of the Sub-Contractor.

12.0 PROVISION OF FACILITIES BY THE CONTRACTOR

- 12.1 Where provided in the main contract, the Contractor shall supply at his own cost all necessary water, lighting, electric power, telephones and security required for the sub-contract works. Where not so provided, the Sub-Contractor shall provide the said services at his own cost.

- 12.2 Except as otherwise provided in the main contract, the Sub-Contractor shall construct at his own expense all necessary workshops, stores, offices, workers' accommodation and other temporary buildings required for the carrying out of the works at such places on site as the Contractor shall identify. The Contractor undertakes to give the sub-Contractor the required space and all reasonable facilities for such construction. Upon practical completion of the works, the Sub-contractor shall remove the said facilities and reinstate disturbed surface to the satisfaction of the Contractor.
- 12.3 The Contractor shall provide, without charge, general attendance to the Sub-Contractor to facilitate the carrying out of the works which attendance shall include facilities for access to and movement within the site and sections or parts of the building or buildings where the sub-contract works are being carried out, the use of temporary roads, paths and access ways, sanitary and welfare facilities.
- 12.4 The Contractor shall permit the Sub-Contractor to use, without charge, at all reasonable times, any scaffolding and hoisting equipment belonging to or provided by the Contractor while it remains so erected upon the site. The use by the Sub-Contractor of any other equipment, facilities or services provided by the Contractor for the works shall be subject to private arrangements between the parties hereto and shall not be regulated by these conditions.
- 12.5 Provided that such use of the scaffolding and hoisting equipment shall be on the express condition that no warranty or other liability on the part of the Contractor shall be created or implied in regard to fitness, condition or suitability for the intended purpose except that the Sub-Contractor shall be liable for any damage caused thereto or thereby.
- 12.6 Where required, the Contractor shall provide the facilities, equipment and the like and carry out any necessary builder' works within a reasonable time of the request by the Sub-Contractor to enable timely performance of the sub-contract.

13.0 LIABILITY FOR OWN WORK

- 13.1 The Contractor and the Sub-Contractor shall be liable for the due carrying out of their respective works in accordance with their respective contracts without causing damage or injury to the works of the other sub-contractors, and in particular:
- 13.2 Should the carrying out of the sub-contract works cause injury or damage to the main contract works, or to the work of the other sub-contractors, the Sub-contractor shall rectify the damage so caused at his own cost.
- 13.3 Should the carrying out of the main contract works cause damage or injury to the sub-contract works, the Contractor shall rectify the damage at his own cost.

- 13.4 If in the course of carrying out the sub-contract works, the Sub-Contractor is required to carry out work not included in his sub-contract by reason of any materials of workmanship not being in accordance with the main contract or with other sub-contracts, the Contractor shall reimburse the Sub-Contractor the expenses incurred therein.

14.0 CO-OPERATION IN USE OF FACILITIES

- 14.1 The Contractor and the Sub-Contractor undertake to co-operate with each other and co-ordinate work arrangements and procedures required in carrying preventing interference, disruption or disturbance to the progress of the works or to the activities of other sub-contractors.
- 14.2 The Contractor and the Sub-Contractor undertake not to wrongfully use or interfere with equipment, scaffolding, appliances, ways, temporary works, temporary buildings and other property belonging to or provided by the other part or by other sub-contractors.
- 14.3 Provided that nothing contained in this clause shall prejudice or limit the rights of the Contractor or of the sub-Contractor in carrying out their respective statutory and or contractual duties under this sub-contract or under the main contract.

15.0 ASSIGNMENT AND SUBLETTING

- 15.1 Neither the Contractor nor the Sub-Contractor shall, without the written consent of the other and the Employer, assign this sub-contract.
- 15.2 The Sub-Contractor shall not sub-let the whole of the works without the written consent of the Contractor and the Architect.
- 15.3 Provided that any assignment and any sub-contracts as well as this sub-contract shall terminate immediately upon (for whatever reason) of the main contract.

16.0 WORK PRIOR TO APPOINTMENT OF CONTRACTOR

- 16.1 Where the Sub-Contractor is appointed before the Contractor is appointed, any work done by the Sub-Contractor prior to the said appointment shall be treated as a separate contract between the Employer and the Sub-Contractor and shall be valued by the Quantity Surveyor and paid for directly by the Employer without the involvement of the Contractor.

- 16.2 Where the Sub-Contractor is appointed before the Contractor is appointed, the Sub-Contractor shall be permitted, when the identity of the Contractor is known and within 30 days thereof, to raise objections (on reasonable grounds) against entering into a sub-contract with the Contractor
- 16.3 Where work which is outside the sub-contract is ordered directly by Employer or the Architect, that work shall be treated as a separate contract between the Sub-Contractor and the Employer and shall be valued and paid for directly to the Sub-Contractor in accordance with sub-clause 16.1 herein without the involvement of the Contractor. The cost of equipment, facilities and the like provided by the Contractor to the Sub-contractor and any builder's work carried out by the Contractor with regard to such work shall be paid directly by the Sub-Contractor to the Contractor.

17.0 SUB-CONTRACTOR DESIGN

Where the sub-contract includes a design component by the Sub-Contractor, the design shall be to the approval of the Architect and the Employer. Notwithstanding and approvals, the Sub-Contractor shall be liable directly to the Employer for any consequences of failure of the design to comply with the requirements of the Employer or to be fit or suitable for the purposes for which the sub-contract works or the relevant part thereof were intended.

18.0 SPECIFICATION OF GOODS, MATERIALS AND WORKMANSHIP

- 18.1 All materials, goods and workmanship shall, so far as procurable, be of the respective kinds and standards described in the sub-contract bills, specifications and drawings.
- 18.2 The provisions of clause 23.0 of the main contract regulating the procurement, specification and quality assurance of materials, processes and workmanship and the requirements of clause 24.0 therein dealing with the provision of samples and the carrying out of specified tests shall apply to the sub-contract in the same manner as they apply to the main contract.

19.0 COMPLIANCE WITH STATUTORY AND OTHER REGULATIONS

The Sub-Contract shall comply with all statutory and other regulations of competent authorities regulating the carrying out of the works in accordance with the provisions of clause 17.0 of the main contract, as applicable.

20.0 ROYALTIES AND PATENT RIGHTS

- 20.1 All royalties or other sums payable in respect of the supply and use of any patented articles, processes or inventions in carrying out the works as described by or referred to in the sub-contract bills, specifications or drawings shall be deemed to have been included in the sub-contract price.
- 20.2 The provision of clause 25.0 of the main contract dealing with the same shall apply to the sub-contract in the same manner as they apply to the main contract.

21.0 ANTIQUITIES AND OTHER OBJECTS OF VALUE

All fossils, antiquities and other objects of interest or value which may be found on the site or in excavating the same during the progress of the sub-contract shall be dealt with in accordance with the provisions of clause 44.0 of the main contract.

22.0 SUSPENSION OF WORKS

- 22.1 An instruction by the Architect to postpone or suspend the works under clause 28.0 of the main contract shall have the same effect on the sub-contract works as it has on the main contract works.
- 22.2 If the suspension arises due to default by the contractor and the sub-contract works are adversely effected by the suspension, the sub-contractor shall be entitled to reimbursement by the contractor of all expenses arising therefrom.
- 22.3 If the suspension arises due to default by the sub-contractor, the sub-contractor shall be liable to the contractor for all expenses arising therefrom.
- 22.4 A notice by the contractor to suspend the works under clause 29.0 of the main contract shall have the same effect on the sub-contract works as it has on the main contract works.
- 22.5 Should the sub-contract works be adversely affected by suspension under clause 29.0 of the main contract, the sub-contractor shall be entitled to the remedies provided for at clauses 25.0 and 26.0 of this sub-contract.

23.0 PAYMENTS

- 23.1 Procedures for originating and processing applications for payments and payment certificates as regards the sub-contract works shall be the same as those prescribed for the Contractor in the main contract at clause 34.0. All references therein to the contractor shall be deemed to include references to the Sub-contractor.

- 23.2 Before submitting an application for payment to the Quantity Surveyor in accordance with clause 34.1 of the main contract, the Contractor shall give the Sub-Contractor a notice of not less than 7 days to submit the details of the amounts which the Sub-Contractor considers himself entitled to for the relevant period. Such details, when received, shall be annexed to the said Contractor's application.
- 23.3 Where it is necessary to measure the sub-contract works for purpose of interim valuation or for the preparation of the final account, the Quantity Surveyor shall give the Sub-Contractor a reasonable opportunity to be present at the time of the measurements and to take notes and measurements as he may require.
- 23.4 Neither the Quantity Surveyor nor the Architect shall be bound to issue a valuation or a payment certificate in respect of the sub-contract works, as the case may be, whose value is less than the amount stated in the appendix to these conditions as the minimum amount of a payment certificate before the issue of the certificate of practical completion of the main contract or of the sub-contract, as applicable.
- 23.5 Provided that where the minimum amount of a certificate inserted in the appendix to these conditions has been achieved but the corresponding minimum inserted in the appendix to the main contract in respect of the Contractor's work has not been achieved, or the Contractor has not applied for payment within the stated period, the Architect may with the consent of the Contractor, issue a payment certificate directly to the Sub-Contractor for payment by the Employer.
- 23.6 Within 7 days of receipt by the Contractor of payment by the Employer, the Contractor shall notify and pay to the Sub-Contractor the total value certified therein in respect of the sub-contract works less the portion of the retention money attributable to the sub-contract works and less amounts previously paid to the Sub-Contractor.
- 23.7 Where certificates are not paid by the Employer within the prescribed period, the Sub-Contractor shall be entitled to be paid by the Contractor, upon receipt of payment from the Employer, the interest certified for the delay in accordance with sub-clause 34.6 of the main contract in respect of the portion of the sub-contract works included in the certificate.
- 23.8 Where the Contractor has received payment from the Employer but has not released the appropriate amount to the Sub-Contractor within the stated period, the Contractor shall pay to the Sub-Contractor in addition to the amount not paid, simple interest on the unpaid amount for the period it remains unpaid at the commercial bank lending rate in force during the period of default.

- 23.9 If, upon application by the Sub-Contractor and Architect agree, or if the Contractor fails to make payment to the Sub-Contractor in accordance with sub-clause 23.6 herein and continues such default for 14 days thereafter, the Architect may issue a payment certificate directly to the Sub-Contractor for payment by the Employer, where applicable, and deduct the amount from subsequent payment to the Contractor.
- 23.10 Upon the issue of the certificate of practical completion and the release of one half of the total amount of the retention of money to the Contractor, the Contractor shall pay the portion attributable to the sub-contract to the Sub-Contractor within 7 days of receipt of the payment.
- 23.11 Upon the issue of the certificate of rectification of defects and receipt of the balance of the retention money by the Contractor, the Contractor shall pay the balance of the portion of the retention money attributable to the sub-contract to the Sub-Contractor within 7 days of receipt of the payment.
- 23.12 The sub-contract final account shall be agreed between the Sub-Contractor, the Contractor, the Quantity Surveyor and the Architect and shall be annexed to the Contractor's final accounts which shall be agreed as provided for in the main contract. For purpose of finalizing the accounts, the Quantity Surveyor may request the Sub-Contractor to submit further documents as he may deem necessary.
- 23.13 The final certificate issued under sub-clause 34.21 of the main contract shall be final and binding on the Sub-Contractor in the same manner it is binding on the Contractor.
- 23.14 If the Architect desires to secure final payment to the Sub-Contractor before final payment is due to the Contractor, the provisions of sub-clause 31.10 of the main contract shall apply.
- 23.15 The Contractor shall be entitled to deduct from or set off against any money due from him to the Sub-Contractor in interim certificates any sum or sums which the Sub-Contractor is liable to pay to the Contractor arising under or in connection with the sub-contract.

24.0 PRACTICAL COMPLETION AND DEFECTS LIABILITY

- 24.1 The Sub-Contractor shall proceed with the works regularly and diligently and complete the same within the period stated in the appendix to this sub-contract or within such extended period as may be granted under clause 25.0 of this sub-contract.

- 24.2 Where the sub-contract works are to be completed in sections or where the sub-contract works are to be completed in advance of the main contract works, the provisions of clause 42.0 of the main contract shall apply, as appropriate, to the sub-contractor in the same manner as they apply to the main contract.
- 24.3 The procedures for certifying practical completion and for dealing with defects in the sub-contract works as well as the main contract works are as prescribed at clause 41.0 of the main contract. Upon the issue of the certificate of practical completion of the whole of the works or of the sub-contract works, as applicable, the Sub-contractor shall be entitled to release of one half of the retention money attributable to the sub-contract works within 7 days after the Contractor has received payment.
- 24.4 The balance of the retention money shall be released to the Sub-Contractor after the defects appearing in the works have been rectified in accordance with sub-clause 41.6 and 41.7 of the main contract and after the Contractor has received the said payment as provided for in sub-clause 34.16.3 of the main contract.

25.0 EXTENSION OF TIME

- 25.1 Upon it becoming reasonably apparent that the progress of the sub-contract works is or will be delayed, the Sub-Contractor shall forthwith give written notice of the cause of the delay to the Contractor and to the Architect with supporting details showing the extent of delay caused or likely to be caused. Thereafter, the Architect shall evaluate the information supplied by the Sub-Contractor and if in his opinion the completion of the works is likely to be or has been delayed beyond the date for practical completion stated in the appendix to these conditions or beyond any extended time previously fixed under this clause, by any of the reasons entitling the Contractor to extension of time under sub-clause 36.1 of the main contract, then the Architect shall, so soon as he is able estimate the length of the delay beyond the date or time aforesaid, recommend to the Contractor a fair and reasonable extension of time to be granted for the completion of the sub-contract works.
- 25.2 Thereupon, the Contractor shall grant in writing to the Sub-Contractor the recommended time. Provided that the Contractor shall not grant any extension of time to the Sub-Contractor without the written recommendation of the Architect. And provided that the Sub-Contractor shall constantly use his best endeavors to prevent delay and shall do all that may be reasonably required to proceed with the works.
- 25.3 The procedures for dealing with requests for extension of time and the observance of time limits prescribed at clause 36.0 of the main contract shall apply to the sub-contract in the same manner as they apply to the main contract.

26.0 LOSS AND EXPENSE CAUSED BY DISTURBANCE OF REGULAR PROGRESS

- 26.1 If upon written application being made by the Sub-Contractor to the Contractor and to the Architect, the Architect is of the opinion that the Sub-Contractor has been involved in direct loss and or expense, for which he would not be reimbursed by a payment made under any other provision in this sub-contract, by reasons of the regular progress of the sub-contract works or any part thereof having been materially affected by any of the reasons which would entitle the Contractor to reimbursement under clause 37.0 of the main contract, the Quantity Surveyor shall assess the amount of such loss and or expense.
- 26.2 Any amount so assessed shall be added to the sub-contract price and if an interim certificate is issued after the date of assessment, any such amount shall be added to the amount which would otherwise be stated as due in such certificate as regards the Sub-Contractor's entitlement.
- 26.3 The procedures for dealing with loss and or expense claims prescribed at clause 37.0 of the main contract shall apply to the sub-contract in the same manner as they apply to the main contract, as appropriate.

27.0 DAMAGES FOR DELAY IN COMPLETION

- 27.1 If the Sub-Contractor fails to complete the sub-contract works by the date for practical completion stated in the appendix to these conditions or within any extended time fixed under clause 25.0 herein, and the Architect certifies in writing that in his opinion the same ought reasonably so to have been completed, then the Sub-Contractor shall pay or allow to the Contractor a sum calculated at the rate stated in the said appendix as liquidated damages for the period during which the works shall so remain or have remained incomplete.
- 27.2 The Contractor may deduct such sum from any money due or to become due to the Sub-Contractor under the sub-contract or recover the same from the Sub-Contractor as a debt. Provided that the Contractor shall not be entitled to recover any liquidated damages from the Sub-Contractor without first obtaining the Architect's certificate of delay prescribed herein.

28.0 FLUCTATIONS

- 28.1 Unless otherwise stated in the sub-contract bills or specifications, the sub-contract price shall be deemed to have been calculated to include all duties and taxes imposed by statutory and other competent authorities in the country where the works are being carried out, and

- 28.2 The sub-contract price shall be deemed to be based on currency exchange rates current at the date of tender as regards materials or goods to be specifically imported for permanent incorporation in the works.
- 28.3 Should duties, taxes and exchange rates vary during the period of the contract, compensation thereof shall be calculated in accordance with sub-clause 35.1 and 35.2 of the main contract.
- 28.4 Compensation for change in prices of goods and materials incorporated in the works and in the rates of wages provided for at sub-clause 35.3, 35.4 and 35.5 of the main contract shall not apply to the sub-contract unless specifically provided for in the bill of quantities or specifications.

29.0 TERMINATION OF MAIN CONTRACT

- 29.1 If, for any reason, the contractor's employment is terminated either under clause 38.0, 39.0 or 40.0 of the main contract, this sub-contract shall thereupon also terminate.
- 29.2 Upon termination, the sub-contractor shall cease all work and vacate the site. He shall not remove any equipment or any materials brought onto the site for the carrying out of the works without the written approval of the contractor and the Architect
- 29.3 Where the termination of the main contract occurs without the default of the sub-contractor, the sub-contractor shall be paid by the contractor for work done in the like manner as the Contractor is paid at clause 39.5 of the main contract.
- 29.4 Where the termination of main contract arises from the default by the sub-contractor, the adjustment of the sub-contract accounts shall be performed in the like manner as is provided at sub-clause 38.8 of the main contract regarding the main contract accounts.

30.0 TRMINATION OF SUB-CONTRACT.

- 30.1 Without prejudice to any other rights and remedies which the contractor may possess, if the sub-contractor shall make default in any one or more of the respects which would entitle the employer to terminate the main contract under clause 38.0 therein, the contractor shall give the sub-contractor a notice, with a copy to the Architect and to the employer by registered post of recorded delivery specifying the default. Should the sub-contractor continue the default for 14 days after receipt of such notice or at any time thereafter repeat such default and should the Architect certify that the sub-contractor is in default, the contractor

may terminate the Sub-contract forthwith after the expiry of the notice provided that the notice is not given unreasonably or vexatiously. The termination letter shall be copied to the Architect and to the Employer.

- 30.2 Where the sub-contract is terminated due to the default of the sub- contractor as in sub-clause 30.1 herein, the adjustment of sub-contract accounts shall be performed in the like manner as is provided at sub-clause 38.8 of the main contract regarding the main contract accounts.
- 30.3 Without prejudice to any other rights and remedies which the Sub-Contractor may possess, if the Contractor shall make default in one or more of the respects which, if committed by the Employer, would entitle the contractor to terminate the main contract under clause 39.0 therein, the Sub-Contractor shall give the Contractor a notice, with a copy to the Architect and to the Employer, by registered post or recorded delivery specifying the default. Should the contractor continue the default for 14 days after receipt of such notice or at any time thereafter repeat such default, and should the Architect certify that the contractor is in default, the Sub-Contractor may terminate the sub-contract forthwith after expiry of the notice, provided that the notice is not given unreasonably or vexatiously. The termination letter shall be copied to the Architect and to the Employer.
- 30.4 If the Sub-Contract is terminated due to the default of the Contractor as in sub-clause 30.3 herein, the Contractor shall pay the sub-contractor for work done in the like manner as the Contractor would be paid at sub-clause 39.5 of the main contract where the termination is done by the Contractor.
- 30.5 Where the sub-contract is terminated due to the default of the Contractor, all expenses arising from the termination shall be done wholly by the Contractor and the termination shall not create any liability on the Employer.
- 30.6 Where the sub-contract is terminated due to the default of the Sub-Contractor, the sub-contractor shall be liable to the contractor for all expenses arising therefrom.

31.0 SETTLEMENT OF DISPUTES

- 31.1 In case any dispute or difference shall arise between the Contractor and Sub-Contractor, either during the progress or after the completion or abandonment of the sub-contract works, such dispute shall be notified in writing by either party to the other with a request to submit it to arbitration and to concur in the appointment of an Arbitrator within 30 days of the notice.

- 31.2 The dispute shall be referred to the arbitration and final decision of a person to be agreed by the parties. Failing agreement to concur in the appointment of an Arbitrator, the Arbitrator shall be appointed by the Chairman or Vice Chairman of the Architectural Association of Kenya or the Chairman or Vice Chairman of The Chartered Institute of Arbitrators, Kenya Branch, at the request of the applying party.
- 31.3 The arbitration may be on the construction of this sub-contract or on any matter or thing of whatsoever nature arising thereunder or in connection therewith including the rights and liabilities of the parties during the currency of the sub-contract and subsequent to the termination of the sub-contract.
- 31.4 Where the sub-contractor is aggrieved by the manner in which the Architect has exercised or failed to exercise his powers stipulated in the main contract, or in the sub-contract or by any action or inaction of the Employer, and in particular, if he is aggrieved by:
- 31.4.1 The failure or refusal of the Architect to recommend to the contractor an extension of sub-contract time, or
- 31.4.2 The extend of the recommended time, or
- 31.4.3. The amount certified to the sub-contractor either in an interim in a final certificate, or
- 31.4.4 The issue of an instruction which the sub-contractor contends is not authorised by the main contract or the sub-contract, or
- 31.4.5. Any other matter left to the discretion of the Architect in the main contract or in the sub-contract, then.
- 31.5 Subject to the Sub-Contractor giving the Contractor such indemnity and security as the Contractor may reasonably require, the Contractor shall allow the Sub-Contractor to use the contractor's name and, if necessary, shall join the Sub-Contractor in arbitration proceeding against the employer to decide the matters in dispute or in difference.
- 31.6 Provided that no arbitration proceedings shall be commenced on any dispute or difference where notice of a dispute or difference where notice of a dispute or difference has not been given by the applying party within 90 days of the occurrence or discovery of the matter or issue giving rise to the dispute or difference.
- 31.7 Notwithstanding the issue of a notice as stated above, the arbitration of such a dispute or difference shall not commence unless an attempt has in the first instance been made by the parties to settle such dispute or difference amicably with or without the assistance of third parties.

- 31.8 In any event, no arbitration shall commence earlier than 90 days after the service of the notice of a dispute or difference, except as provided for at sub-clause 31.9 herein.
- 31.9 Notwithstanding anything stated herein, the following matters may be referred to arbitration before the practical completion of the works or abandonment of the works or termination of the sub-contract without having to comply with sub clause 31.8 herein.
- 31.9.1 Whether or not the issue of an instruction by the Architect is authorized by the main contract or these conditions, and
- 31.9.2 Whether or not a payment certificate has been improperly withheld or is not in accordance with the main contract or these conditions or though issued, it has not been honoured.
- 31.10 All other matters in dispute shall only be referred to arbitration after the practical completion or alleged practical completion of the works or abandonment of the works or termination or alleged termination of the sub-contract, unless the Architect the contractor and the sub-contractor agree otherwise in writing.
- 31.11 The Arbitrator shall, without prejudice to the generality of his powers, have power to direct such measurements, computations, tests, or valuations as may in his opinion be desirable in order to determine the rights of the parties and assess and award any sums which ought to have been the subject or included in any payment certificate.
- 31.12 The Arbitrator shall, without prejudice to the generality of his powers, have power to open up, review and revise any certificate, opinion, decision, requirement or notice and to determine all matters in dispute which shall be submitted to him in the same manner as if no such certificate, opinion decision, requirement or notice had been given.
- 31.13 Provided that any decision of the Architect which is final and binding on the contractor under the main contract shall be final and binding between the contractor and the sub-contractor.
- 31.14 The award of such Arbitrator shall be final and binding upon the parties.

SUB CONTRACTOR’S PERFORMANCE BOND

BY THIS AGREEMENT we..... (SURETY)

of.....

are bound to(CONTRACTOR)

in the sum of Kenya shillings

..... (Kshs.....)

to be paid by us to the said(CONTRACTOR)

WHEREAS by an agreement in writing dated.....

..... (SUB-CONTRACTOR)

entered into a sub-contract with(CONTRACTOR)

to carry out and complete the works therein stated in the manner and by the time therein specified all in accordance with he provisions of the said sub-contract, namely:

(description of works)

.....

NOW the condition of the above written bond is such that if the said sub-contractor, his executors, administrator, successors or assigns shall duly perform his obligations under the sub-contract, of if on default by the sub-contractor the surety shall satisfy and discharge the damages sustained by the contractor thereby up to the amount of the above written bond, then this obligation shall be void, otherwise it shall remain in full force and effect. Upon default, and without prejudice to his other rights under the sub-contract, the contractor shall be entitled to demand forfeiture of the bond and we undertake to honour the demand in the amount stated above.

PROVIDED always and it is hereby agreed and declared that no alteration in the terms of the said sub-contract or in the extend or nature of the works to be carried out and no extension of time by the contractor under the sub-contract shall in any way release the surety from any liability under the above written bond.

IN WITNESS whereof we have set out hand this..... day of

.....

.....

Surety

Witness

Authrorised by Power of Attorney No.....

APPENDIX

Clause

Name of sub-contractor’s insurers	6.0.....
Name of sub-contractor’s surety	7.0.....
Amount of surety	7.0.....
Period of possession of site	8.1.....
Date of commencement of works	8.2.....
Date for practical completion	8.2.....
Interval for application of payment certificates	23.1.....
Minimum amount of payment certificate	23.4.....
Percentage of certified value retained	23.6.....
Limit of retention fund, if any	23.6.....
Name of the sub-contractor’s bank for purposes of interest calculation.	23.7, 23.8.....
Defects liability period	23.11.....
Period of final measurement and valuation	23.12.....
Damages of delay in completion	27.1 at the rate of Kshs.....

Signed by the said:

.....

CONTRACTOR

.....

SUB-CONTRACTOR

SECTION C

SUB-CONTRACT PRELIMINARIES

AND

GENERAL CONDITIONS

CONTRACT PRELIMINARIES AND GENERAL CONDITIONS

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SECTION C

SUB-CONTRACT PRELIMINARIES AND GENERAL CONDITIONS

1.01 Examination of Tender Documents

The tenderer is required to check the number of pages of this document and should he find any missing or indistinct, he must inform the Engineer at once and have the same rectified.

All tenderers shall be deemed to have carefully examined the following:

- a) Work detailed in the Specification and in the Contract Drawings.
- b) The Republic of Kenya Document “General Conditions of Contract for Electrical and Mechanical Works”.
- c) Other documents to which reference is made.

He shall also be deemed to have included for any expenditure which may be incurred in conforming with the above items (a), (b), (c) and observe this expense as being attached to the contract placed for the whole or any part of the work.

The tenderer shall ensure that all ambiguities, doubts or obscure points of detail, are clarified with the Engineer before submission of his tender, as no claims for alleged deficiencies in the information given shall be considered after this date.

1.02 Discrepancies

The Sub-contractor shall include all work either shown on the Contract Drawings or detailed in the specification. No claim or extra cost shall be considered for works which has been shown on the drawings or in the specification alone.

Should the drawing and the specification appear to conflict, the Sub-contractor shall query the points at the time of tendering and satisfy himself that he has included for the work intended, as no claim for extra payment on this account shall be considered after the contract is awarded.

1.03 Conditions of Sub-Contract Agreement

The Sub-contractor shall be required to enter into a Sub-contract with the Main Contractor.

The Conditions of the Contract between the Main Contractor and the Sub-contractor as hereinafter defined shall be the latest edition of the Agreement and Schedule of Conditions of Kenya Association of Building and Civil Engineering Contractors as particularly modified and amended hereinafter.

For the purpose of this contract the Agreement and Schedule of Conditions and any such modifications and amendments shall read and construed together. In any event of discrepancy the modifications and amendments shall prevail.

1.04 **Payment**

Payment will be made through certificates to the Main Contractor, unless he specifically agrees to forego this right, in which case direct payment can be made to the Sub-contractor. All payments will be less retention as specified in the Main Contract. No payment will become due until materials are delivered to site.

1.05 **Definition of Terms**

Throughout these contract documents units of measurements, terms and expressions are abbreviated and wherever used hereinafter and in all other documents they shall be interpreted as follows:

- i) **Employer:** The term “Employer” shall mean **The Vice Chancellor, Masinde Muliro University Of Science & Technology, P.O.Box 190-50100, Kakamega.**
- ii) **Architect:** The Term “Architect” Shall Mean **The University Architect, Masinde Muliro University Of Science & Technology, P.O.Box 190-50100, Kakamega.**
- iii) **Quantity Surveyor:** The term “Quantity Surveyor” shall mean **County Quantity Surveyor, P.O. Box 14-50100, Kakamega.**
- iv) **Civil/Structural Engineers:** The term “Civil/Structural Engineers ” shall mean **The University Engineer(Structural), MMUST, P.O.Box 190-50100, Kakamega.**
- v) **Engineer:** The term “Engineer” shall mean **County Electrical Engineer (BS), Ministry of Public Works, P.O. Box 14-50100, Kakamega.**
- vi) **Main Contractor:** The term “Main Contractor” shall mean the firm or company appointed to carry out the Building Works and shall include his or their heir, executors, assigns, administrators, successors, and duly appointed representatives.
- vii) **Sub-contractor:** The term “Sub-contractor” shall mean the persons or person, firm or Company whose tender for this work has been accepted, and who has entered into a contract agreement with the Contractor for the execution of the Sub-contract Works, and shall include his or their heirs, executors, administrators, assigns, successors and duly appointed representatives.

- viii) **Sub-contract Works:** The term “**Sub-contract Works**” shall mean all or any portion of the work, materials and articles, whether the same are being manufactured or prepared, which are to be used in the execution of this Sub-contract and whether the same may be on site or not.
- ix) **Contract Drawings:** The term “**Contract Drawings**” shall mean those drawings required or referred to herein and forming part of the Bills of Quantities.
- x) **Working Drawings:** The term “**Working Drawings**” shall mean those drawings required to be prepared by the Sub-contractor as hereinafter described.
- xi) **Record Drawings:** The term “**Record Drawings**” shall mean those drawings required to be prepared by the Sub-contractor showing “as installed” and other records for the

Sub-contract Works.

xii) Abbreviations:

CM shall mean **Cubic Metre**

SM shall mean **Square Metre**

LM shall mean **Linear Metre**

M shall mean **Metre**

LS shall mean **Lump Sum**

mm shall mean **Millimetres**

No. shall mean **Number**

Kg. shall mean **Kilogramme**

KEBS shall mean **Kenya Bureau of Standards**

BS shall mean. **Current standard British Standard Specification published**

by the British Standard Institution, 2 Park Street, London W1, England

“**Ditto**” shall mean the whole of the preceding description in which it occurs.

Where it occurs in description of succeeding item it shall mean the same as in the first description of the series in which it occurs except as qualified in the description concerned. Where it occurs in brackets it shall mean the whole of the preceding description which is contained within the appropriate brackets.

1.06 **Site Location**

The site of the Sub-contract Works is situated in *Masinde Muliro University Of Science & Technology within Kakamega Municipality; along Kakamega-Webuye Road; in Kakamega County.*

The tenderer is recommended to visit the site and shall be deemed to have satisfied himself with regard to access, possible conditions, the risk of injury or damage to property on/or adjacent to the site, and the conditions under which the sub-contract Works shall have to be carried out and no claims for extras will be considered on account of lack of knowledge in this respect.

1.07 **Duration of Sub-Contract**

The Sub-Contractor shall be required to phase his work in accordance with the Main contractor's programme (or its revision). The programme is to be agreed with the Main contractor.

1.08 **Scope of Sub-Contract Works**

The sub-contractor shall supply, deliver, unload, hoist, fix, test, commission and hand-over in satisfactory working order the complete installations specified hereinafter and/or as shown on the Contract Drawings attached hereto, including the provision of labour, transport and plant for unloading material and storage, and handling into position and fixing, also the supply of ladders, scaffolding the other mechanical devices to plant, installation, painting, testing, setting to work, the removal from site from time to time of all superfluous material and rubbish caused by the works.

The sub-contractor shall supply all accessories, whether of items or equipment supplied by the Main Contractor but to be fixed and commissioned under this Sub-contract.

1.09 **Extent of the Sub-contractor's Duties**

At the commencement of the works, the Sub-contractor shall investigate and report to the Engineer if all materials and equipment to be used in the work and not specified as supplied by the others are available locally. If these materials and equipment are not available locally, the Sub-contractor shall at this stage place orders for the materials in question and copy the orders to the Engineer. Failure to do so shall in no way relieve the Sub-contractor from supplying the specified materials and equipment in time.

Materials supplied by others for installation and/or connection by the Subcontractor shall be carefully examined in the presence of the supplier before installation and connection. Any defects noted shall immediately be reported to the Engineer.

The Sub-contractor shall be responsible for verifying all dimensions relative to his work by actual measurements taken on site.

The Sub-contractor shall mark accurately on one set of drawings and indicate all alterations and/or modifications carried out to the designed system during the construction period. This information must be made available on site for inspection by the Engineer.

1.10 **Execution of the Works**

The works shall be carried out strictly in accordance with:

- a) All relevant Kenya Bureau of Standards Specifications.
- b) All relevant British Standard Specifications and Codes of Practice (hereinafter referred to as B.S. and C.P. respectively).
- c) This Specification.
- d) The Contract Drawings.
- e) The Bye-laws of the Local Authority.
- f) The Architect's and/or Engineer's Instructions.

The Contract Drawings and Specifications to be read and construed together.

1.11 **Validity of Tender**

The tender shall remain valid for acceptance within 120 days from the final date of submission of the tender, and this has to be confirmed by signing the Tender Bond. The tenderer shall be exempted from this Bond if the tender was previously withdrawn in writing to the Employer before the official opening.

1.12 **Firm – Price Sub-contract**

Unless specifically stated in the documents or the invitation to tender, this is a firm-price Contract and the Sub-contractor must allow in his tender for the increase in the cost of labour and/or materials during the duration of the contract. No claims will be allowed for increased costs arising from the fluctuations in duties and/or day to day currency fluctuations. The Sub-contractor will be deemed to have allowed in his tender for any increase in the cost of materials which may arise as a result of currency fluctuation during the contract period.

1.13 **Variation**

No alteration to the Sub-contract Works shall be carried out until receipt by the Sub-contractor of written instructions from the Project Manager.

Any variation from the contract price in respect of any extra work, alteration or omission requested or sanctioned by the Architect or Engineer shall be agreed and confirmed in writing at the same time such variations are decided and shall not affect the validity of the Contract. Schedule of Unit Rates shall be used to assess the value of such variations. No allowance shall be made for loss of profit on omitted works.

Where the Architect requires additional work to be performed, the Sub-contractor, if he considers it necessary, will give notice within seven (7) days to the Main Contractor of the length of time he (the Sub-contractor) requires over and above that allotted for completion of the Sub-contract.

If the Sub-contractor fails to give such notice he will be deemed responsible for the claims arising from the delay occasioned by reason of such extension of time.

1.14 **Prime Cost and Provisional Sums**

A specialist Sub-contractor may be nominated by the Architect to supply and/or install any equipment covered by the Prime Cost or Provisional Sums contained within the Sub-contract documents.

The work covered by Prime Cost and Provisional Sums may or may not be carried out at the discretion of the Architect.

The whole or any part of these sums utilised by the Sub-contractor shall be deducted from the value of the Sub-contract price when calculating the final account.

1.15 **Bond**

The tenderer must submit with his tender the name of one Surety who must be an established Bank only who will be willing to be bound to the Main Contractor for an amount equal to 7½ % of the Sub-contract amount as Clause 31 of the Main Contract.

1.16 **Government Legislation and Regulations**

The Sub-contractor's attention is called to the provision of the Factory Act 1972 and subsequent amendments and revisions, and allowance must be made in his tender for compliance therewith, in so far as they are applicable.

The Sub-contractor must also make himself acquainted with current legislation and any Government regulations regarding the movement, housing, security and control of labour, labour camps, passes for transport, etc.

The Sub-contractor shall allow for providing holidays and transport for work people, and for complying with Legislation, Regulations and Union Agreements.

1.17 **Import Duty and Value Added Tax**

The Sub-contractor will be required to pay full Import Duty and Value Added Tax on all items of equipment, fittings and plant, whether imported or locally manufactured. The tenderer shall make full allowance in his tender for all such taxes

1.18 **Insurance Company Fees**

Attention is drawn to the tenderers to allow for all necessary fees, where known, that may be payable in respect of any fees imposed by Insurance Companies or statutory authorities for testing or inspection.

No allowance shall be made to the Sub-contractor with respect to fees should these have been omitted by the tenderer due to his negligence in this respect.

1.19 **Provision of Services by the Main Contractor**

In accordance with Clause 1.08 of this Specification the Main Contractor shall make the following facilities available to the Sub-contractor:

- a) Attendance on the Sub-contractor and the carrying out of all work affecting the structure of the building which may be necessary, including all chasing, cutting away and making good brickwork, etc., except that all plugging for fixing, fittings, machinery, fan ducting, etc., and all drilling and tapping of steel work shall be the responsibility of the Sub-contractor. Any purpose made fixing brackets shall not constitute Builder's Work and shall be provided and installed by the Sub-contractor unless stated hereinafter otherwise.
- b) The provision of temporary water, lighting and power: All these services utilised shall be paid for by the Main Contractor. The Sub-contractor shall, however, allow for additional connections/extensions required for his purposes.
- c) Fixing of anchorage and pipe supports in the shuttering, except that all anchorage shall be Supplied by the Sub-contractor who shall also supply the Main Contractor with fully dimensioned drawings detailing the exact locations.
- d)
 - i) Provision of scaffolding, cranes, etc. but only in so far as it is required for the Main Contract Works. It shall be the Sub-contractor's responsibility to liaise with the Main Contractor to ensure that there is maximum co-operation with other Sub-contractors in the use of scaffolding, cranes, etc.
 - ii) Any specialist scaffolding, cranes, etc. by the Sub-contractor for his own exclusive use shall be paid for by the Sub-contractor.

1.20 **Suppliers**

The Sub-contractor shall submit names of any supplier for the materials to be incorporated, to the Engineer for approval. The information regarding the names of the suppliers may be submitted at different times, as may be convenient, but no sources of supply will be changed without prior approval.

Each supplier must be willing to admit the Engineer or his representative to his premises during working hours for the purpose of examining or obtaining samples of the materials in question.

1.21 **Samples and Materials Generally**

The Sub-contractor shall, when required, provide for approval at no extra cost, samples of all materials to be incorporated in the works. Such samples, when approved, shall be retained by the Engineer and shall form the standard for all such materials incorporated.

1.22 **Administrative Procedure and Contractual Responsibility**

Wherever within the Specification it is mentioned or implied that the Sub-contractor shall deal direct with the Employer or Engineer, it shall mean “through the Contractor” who is responsible to the Employer for the whole of the works including the Sub-contract Works.

1.23 **Bills of Quantities**

The Bills of Quantities have been prepared in accordance with the standard method of measurement of Building Works for East Africa, first Edition, Metric, 1970. All the Quantities are based on the Contract Drawings and are provisional and they shall not be held to gauge or to limit the amount or description of the work to be executed by the Sub-contractor but the value thereof shall be deducted from the Sub-contract Sum and the value of the work ordered by the Engineer and executed there under shall be measured and valued by the Engineer in accordance with the conditions of the Sub-contract.

All work liable to adjustment under this Sub-contract shall be left uncovered for a reasonable time to allow measurements needed for such adjustment to be taken by the Quantity Surveyor or Engineer. Immediately the work is ready for measuring the Sub-contractor shall give notice to the Quantity Surveyor or Engineer to carry out measurements before covering up. If the Sub-contractor shall make default in these respects he shall, if the Architect so directs, uncover the work to enable the necessary measurements to be taken and afterwards reinstate at his own expense.

1.24 **Sub-contractor’s Office in Kenya**

The Sub-contractor shall maintain (after first establishing if necessary) in Kenya an office staffed with competent Engineer Manager and such supporting technical and clerical staff as necessary to control and coordinate the execution and completion of the Sub-contract Works.

The Engineer Manager and his staff shall be empowered by the Sub-contractor to represent him at meetings and in discussions with the Main Contractor, the Engineer and other parties who may be concerned and any liaison with the Sub-contractor’s Head Office on matters relating to the design, execution and completion of the Sub-contract Works shall be effected through his office in Kenya.

It shall be the Sub-contractor’s responsibility to procure work permits, entry permits, licences, registration, etc., in respect of all expatriate staff.

The Sub-contractor shall prepare a substantial proportion of his Working Drawings at his office in Kenya. No reasons for delays in the preparation or submission for approval or otherwise of such drawings or proposals will be accepted on the grounds that the Sub-contractor's Head Office is remote from his office in Nairobi or the site of the Sub-contract Works or otherwise.

1.25 **Builder's Work**

All chasing, cutting away and making good will be done by the Main Contractor but the Sub-contractor shall mark out in advance and shall be responsible for accuracy of the size and position of all holes and chases required.

The Sub-contractor shall drill and plug holes in floors, walls, ceiling and roof for securing services and equipment requiring screw or bolt fixings.

Any purpose made fixing brackets shall not constitute builder's work and shall be provided and installed by the Sub-contractor unless stated hereinafter to the contrary.

1.26 **Structural Provision for the Works**

Preliminary major structural provision has been made for the Sub-contract Works based on outline information ascertained during the preparation of the Specification.

The preliminary major structural provision made will be deemed as adequate unless the Sub-contractor stated otherwise when submitting his tender.

Any major structural provision or alteration to major structural provisions required by the Sub-contractor shall be shown on Working Drawings to be submitted to the Engineer within 30 days of being appointed.

No requests for alterations to preliminary major structural provisions will be approved except where they are considered unavoidable by the Engineer. In no case will they be approved if building work is so far advanced as to cause additional costs or delays in the work of the Main Contractor.

1.27 **Position of Services, Plant, Equipment, Fittings and Apparatus**

The Contract Drawings give a general indication of the intended layout. The position of the equipment and apparatus, and also the exact routes of the ducts, main and distribution pipework shall be confirmed before installation is commenced. The exact siting of appliances, pipework, etc., may vary from that indicated.

The routes of services and positions of apparatus shall be determined by the approved dimensions detailed in the Working Drawings or on site by the Engineer in consultation with the Sub-contractor or the Main Contractor.

Services throughout the ducts shall be arranged to allow maximum access along the ducts and the services shall be readily accessible for maintenance. Any work which has to be re-done due to negligence in this respect shall be the Sub-contractor's responsibility.

The Sub-contractor shall be deemed to have allowed in his Sub-contract Sum for locating terminal points of services (e.g. lighting, switches, socket outlets, lighting points, control switches, thermostats and other initiating devices, taps, stop cocks) in positions plus or minus 1.2m horizontally and vertically from the locations shown on Contract Drawings. Within these limits no variations in the Sub-contract Sum will be made unless the work has already been executed in accordance with previously approved Working Drawings and with the approval of the Engineer.

1.28 **Checking of Work**

The Sub-contractor shall satisfy himself to the correctness of the connections he makes to all items of equipment supplied under the Sub-contract agreement and equipment supplied under other contracts before it is put into operation. Details of operation, working pressures, temperatures, voltages, phases, power rating, etc., shall be confirmed to others and confirmation received before the system is first operated.

1.29 **Setting to Work and Regulating System**

The Sub-contractor shall carry out such tests of the Sub-contract Works as required by British Standard Specifications, or equal and approved codes as specified hereinafter and as customary.

No testing or commissioning shall be undertaken except in the presence of and to the satisfaction of the Engineer unless otherwise stated by him (Sub-contractor's own preliminary and proving tests excepted).

It will be deemed that the Sub-contractor has included in the Sub-contract Sum for the costs of all fuel, power, water and the like, for testing and commissioning as required as part of the Sub-contract Works. He shall submit for approval to the Engineer a suitable programme for testing and commissioning. The Engineer and Employer shall be given ample warning in writing, as to the date on which testing and commissioning will take place.

The Sub-contractor shall commission the Sub-contract Works and provide attendance during the commissioning of all services, plant and apparatus connected under the Sub-contract Agreement or other Sub-contract Agreements, related to the project.

Each system shall be properly balanced, graded and regulated to ensure that correct distribution is achieved and where existing installations are affected, the Sub-contractor shall also regulate these systems to ensure that their performance is maintained.

The proving of any system of plant or equipment as to compliance with the Specification shall not be approved by the Engineer, except at his discretion, until tests have been carried out under operating conditions pertaining to the most onerous conditions specified except where the time taken to obtain such conditions is unreasonable or exceeds 12 months after practical completion of the Sub-contract Works.

1.30 **Identification of Plant Components**

The Sub-contractor shall supply and fix identification labels to all plant, starters, switches and items of control equipment including valves, with white traffolyte or equal labels engraved in red lettering denoting its name, function and section controlled. The labels shall be mounted on equipment and in the most convenient positions. Care shall be taken to ensure the labels can be read without difficulty. This requirement shall apply also to major components of items of control equipment.

Details of the lettering of the labels and the method of mounting or supporting shall be forwarded to the Engineer for approval prior to manufacture.

1.31 **Contract Drawings**

The Contract Drawings when read in conjunction with the text of the Specification, have been completed in such detail as was considered necessary to enable competitive tenders to be obtained for the execution and completion of the Sub-contract works.

The Contract Drawings are not intended to be Working Drawings and shall not be used unless exceptionally they are released for this purpose.

1.32 **Working Drawings**

The Sub-contractor shall prepare such Working Drawings as may be necessary. The Working Drawings shall be complete in such detail not only that the Sub-contract Works can be executed on site but also that the Engineer can approve the Sub-contractor's proposals, detailed designs and intentions in the execution of the Sub-contract Works.

If the Sub-contractor requires any further instructions, details, Contract Drawings or information drawings to enable him to prepare his Working Drawings or proposals, the Sub-contractor shall accept at his own cost, the risk that any work, commenced or which he intends to commence at site may be rejected.

The Engineer, in giving his approval to the Working Drawings, will presume that any necessary action has been, or shall be taken by the Sub-contractor to ensure that the installations shown on the Working Drawings have been cleared with the Main Contractor and any other Sub-contractors whose installations and works might be affected.

If the Sub-contractor submits his Working Drawings to the Engineer without first liaising and obtaining clearance for his installations from the Main Contractor and other Sub-contractors whose installations and works might be affected, then he shall be liable to pay for any alterations or modification to his own, the Main Contractor's or other Sub-contractor's installations and works, which are incurred, notwithstanding any technical or other approval received from the Engineer.

Working Drawings to be prepared by the Sub-contractor shall include but not be restricted to the following:

- a) Any drawings required by the Main Contractor, or Engineer to enable structural provisions to be made including Builder's Working Drawings or Schedules and those for the detailing of holes, fixings, foundations, cables and paperwork ducting below or above ground or in or outside or below buildings.
- b) General Arrangement Drawings of all plant, control boards, fittings and apparatus or any part thereof and of installation layout arrangement of such plant and apparatus.
- c) Schematic Layout Drawings of services and of control equipment.
- d) Layout Drawings of all embedded and non-embedded paperwork, ducts and electrical conduits.
- e) Complete circuit drawings of the equipment, together with associated circuit description.
- f) Such other drawings as are called for in the text of the Specification or Schedules or as the Engineer may reasonably require.

Three copies of all Working Drawings shall be submitted to the Engineer for approval. One copy of the Working Drawings submitted to the Engineer for approval shall be returned to the Sub-contractor indicating approval or amendment therein.

Six copies of the approved Working Drawings shall be given to the Main Contractor by the Sub-contractor for information and distribution to other Sub-contractors carrying out work associated with or in close proximity to or which might be affected by the Sub-contract Works.

Approved Working Drawings shall not be departed from except as may be approved or directed by the Engineer.

Approval by the Engineer of Working Drawings shall neither relieve the Sub-contractor of any of his obligations under the Sub-contract nor relieve him from correcting any errors found subsequently in the Approved Working Drawings or other Working Drawings and in the Sub-contract Works on site or elsewhere associated therewith.

The Sub-contractor shall ensure that the Working Drawings are submitted to the Architect for approval at a time not unreasonably close to the date when such approval is required. Late submission of his Working Drawings will not relieve the Sub-contractor of his obligation to complete the Sub-contract Works within the agreed Contract Period and in a manner that would receive the approval of the Architect.

1.33 **Record Drawings (As Installed) and Instructions**

During the execution of the Sub-contract Works the Sub-contractor shall, in a manner approved by the Engineer record on Working or other Drawings at site all information necessary for preparing Record Drawings of the installed Sub-contract Works. Marked-up Working or other Drawings and other documents shall be made available to the Engineer as he may require for inspection and checking.

Record Drawings, may, subject to the approval of the Engineer, include approved Working Drawings adjusted as necessary and certified by the Sub-contractor as a correct record of the installation of the Sub-contract Works.

They shall include but not restricted to the following drawings or information:

- a) Working Drawings amended as necessary but titled “Record Drawings” and certified as a true record of the “As Installed” Sub-contract Works. Subject to the approval of the Engineer such Working Drawings as may be inappropriate may be omitted.
- b) Fully dimensioned drawings of all plant and apparatus.
- c) General arrangement drawings of equipment, other areas containing plant forming part of the Sub-contract Works and the like, indicating the accurate size and location of the plant and apparatus suitability cross-referenced to the drawings mentioned in (b) above and hereinafter.
- d) Routes, types, sizes and arrangement of all pipework and ductwork including dates of installation of underground pipework.
- e) Relay adjustment charts and manuals.
- f) Routes, types, sizes and arrangement of all electric cables, conduits, ducts and wiring including the dates of installation of buried works.
- g) System schematic and trunking diagrams showing all salient information relating to control and instrumentation.
- h) Grading Charts.
- i) Valve schedules and locations suitability cross-referenced.
- j) Wiring and piping diagrams of plant and apparatus.
- k) Schematic diagrams of individual plant, apparatus and switch and control boards. These diagrams to include those peculiar to individual plant or apparatus and also those applicable to system operation as a whole.
- l) Operating Instruction

Schematic and wiring diagrams shall not be manufacturer’s multipurpose general issue drawings. They shall be prepared specially for the Sub-contract Works and shall contain no spurious or irrelevant information.

Marked-up drawings of the installation of the Sub-contract Works shall be kept to date and completed by the date of practical or section completion. Two copies of the Record Drawings of Sub-contract Works and two sets of the relay adjustment and grading charts and schematic diagrams on stiff backing shall be provided not later than one month later.

The Sub-contractor shall supply for fixing in sub-stations, switch-rooms, boiler houses, plant rooms, pump houses, the office of the Maintenance Engineer and other places, suitable valve and instructions charts, schematic diagrams of instrumentation and of the electrical reticulation as may be requested by the Engineer providing that the charts, diagrams, etc., relate to installations forming part of the Sub-contract Works. All such charts and diagrams shall be of suitable plastic material on a stiff backing and must be approved by the Engineer before final printing.

Notwithstanding the Sub-contractor's obligations referred to above, if the Sub-contractor fails to produce to the Engineer's approval, either:-

- a) The Marked-up Drawings during the execution of the Sub-contract Works or
- b) The Record Drawings, etc., within one month of the Section or Practical Completion

The Engineer shall have these drawings produced by others. The cost of obtaining the necessary information and preparing such drawings, etc., will be recovered from the Sub-contractor.

1.34 **Maintenance Manual**

Upon Practical Completion of the Sub-contract Works, the Sub-contractor shall furnish the Engineer four copies of a Maintenance Manual relating to the installation forming part of all of the Sub-contract Works.

The manual shall be loose-leaf type, International A4 size with stiff covers and cloth bound. It may be in several volumes and shall be sub-divided into sections, each section covering one Engineering service system. It shall have a ready means of reference and a detailed index.

There shall be a separate volume dealing with Air Conditioning and Mechanical Ventilation installation where such installations are included in the Sub-contract Works.

The manual shall contain full operating and maintenance instructions for each item of equipment, plant and apparatus set out in a form dealing systematically with each system. It shall include as may be applicable to the Sub-contract Works the following and any other items listed in the text of the Specifications:

- a) System Description.
- b) Plant
- c) Valve Operation

- d) Switch Operation
- e) Procedure of Fault Finding
- f) Emergency Procedures
- g) Lubrication Requirements
- h) Maintenance and Servicing Periods and Procedures
- i) Colour Coding Legend for all Services
- j) Schematic and Wiring Diagrams of Plant and Apparatus
- k) Record Drawings, true to scale, folded to International A4 size
- l) Lists of Primary and Secondary Spares.

The manual is to be specially prepared for the Sub-contract Works and manufacturer's standard descriptive literature and plant operating instruction cards will not be accepted for inclusion unless exceptionally approved by the Engineer. The Sub-contractor shall, however, affix such cards, if suitable, adjacent to plant and apparatus. One spare set of all such cards shall be furnished to the Engineer.

1.35 **Hand-over**

The Sub-contract Works shall be considered complete and the Maintenance and Defects Liability Period shall commence only when the Sub-contract Works and supporting services have been tested, commissioned and operated to the satisfaction of the Engineer and officially approved and accepted by the Employer, provided always that the handing over of the Sub-contract Works shall be coincident with the handing over of the Main Contract Works.

The procedure to be followed will be as follows:

- a) On the completion of the Sub-contract Works to the satisfaction of the Engineer and the Employer, the Sub-contractor shall request the Engineer, at site to arrange for handing over.
- b) The Engineer shall arrange a Hand-over Meeting or a series thereof, at site.

- c) The Sub-contractor shall arrange with the Engineer and Employer for a complete demonstration of each and every service to be carried out and for instruction to be given to the relevant operation staff and other representatives of the Employer.
- d) In the presence of the Employer and the Engineer, Hand-over will take place, subject to Agreement of the Hand-over Certificates and associated check lists.

1.36 **Painting**

It will be deemed that the Sub-contractor allowed for all protective and finish painting in the Sub-contract Sum for the Sub-contract Works, including colour coding of service pipework to the approval of the Engineer. Any special requirements are described in the text of the Specifications.

1.37 **Spares**

The Sub-contractor shall supply and deliver such spares suitably protected and boxed to the Engineer's approval as are called for in the Specifications or in the Price Schedules.

1.38 **Testing and Inspection – Manufactured Plant**

The Engineer reserves the right to inspect and test or witness of all manufactured plant equipment and materials.

The right of the Engineer relating to the inspection, examination and testing of plant during manufacture shall be applicable to Insurance companies and inspection authorities so nominated by the Engineer.

The Sub-contractor shall give two week's notice to the Engineer of his intention to carry out any inspection or tests and the Engineer or his representative shall be entitled to witness such tests and inspections

Six copies of all test certificates and performance curves shall be submitted as soon as possible after the completion of such tests, to the Engineer for his approval.

Plant or equipment which is shipped before the relevant test certificate has been approved by the Engineer shall be shipped at the Sub-contractor's own risk and should the test certificate not be approved new tests may be ordered by the Engineer at the Sub-contractor's expense.

The foregoing provisions relate to tests at manufacturer's works and as appropriate to those carried out at site.

1.39 **Testing and Inspection -Installation**

Allow for testing each section of the Sub-contract Works installation as described hereinafter to the satisfaction of the Engineer.

1.40 **Labour Camps**

The Sub-contractor shall provide the necessary temporary workshop and mess-room in position to be approved by the Architect.

The work people employed by the Sub-contractor shall occupy or be about only that part of the site necessary for the performance of the work and the Sub-contractor shall instruct his employees accordingly.

If practicable, W.C. accommodation shall be allocated for the sole use of the Sub-contractor's workmen and the Sub-contractor will be required to keep the same clean and disinfected, to make good any damage thereto and leave in good condition.

1.41 **Storage of Materials**

Space for storage will be provided by the Main contractor but the sub-contractor will be responsible for provision of any lock-up sheds or stores required.

Nominated Sub-contractors are to be made liable for the cost of any storage accommodation provided specially for their use. No materials shall be stored or stacked on suspended slabs without the prior approval of the Project manager.

1.42 **Initial Maintenance**

The sub-contractor shall make routine maintenance once a month during the liability for the Defects Period and shall carry out all necessary adjustments and repairs, cleaning and oiling of moving parts. A monthly report of the inspection and any works done upon the installation shall be supplied to the Engineer.

The sub-contractor shall also provide a 24 -hour break-down service to attend to faults on or malfunctioning of the installation between the routine visits of inspection.

The sub-contractor shall allow in the sub-contract Sum of the initial maintenance, inspection and break-down service and shall provide for all tools, instruments, plant and scaffolding and the transportation thereof, as required for the correct and full execution of these obligations and the provision, use or installation of all materials as oils, greases, sandpaper, etc., or parts which are periodically renewed such as brake linings etc., or parts which are faulty for any reason whatsoever excepting always Acts of God such as storm, tempest, flood, earthquake and civil revolt, acts of war and vandalism.

1.43 **Maintenance and Servicing After Completion of the Initial Maintenance**

The sub-contractor shall, if required, enter into a maintenance and service agreement with the employer for the installation for a period of up to five years from the day following the last day of the liability for Defects Period which offers the same facilities as specified in Clause 1.41 (Initial Maintenance).

The terms of any such agreement shall not be less beneficial to the employer than the terms of Agreements for either similar installation.

The sub-contractor shall submit with his tender for the works, where called upon a firm quotation for the maintenance and service of the installation as specified herein, which shall be based upon the present day costs and may be varied only to take into account increases in material and labour unit rate costs between the time of tendering and the signing of the formal maintenance and service agreement and which shall remain valid and open for acceptance by the Employer to and including the last day of the fifth complete calendar month following the end of the liability for Defects Period.

1.43 **Trade Names**

Where trade names of manufacturer's catalogue numbers are mentioned in the Specification or the Bills of Quantities, the reference is intended as a guide to the type of article or quality of material required. Alternate brands of equal and approved quality will be acceptable.

1.44 **Water and Electricity for the Works**

These will be made available by the Main Contractor. The Sub-contractor shall be liable for the cost of any water or electric current used and for any installation provided especially for their own use by the Main Contractor.

1.46 **Protection**

The sub-contractor shall adequately cover up and protect his own work to prevent injury and also to cover up and protect from damage all parts of the building or premises where work is performed by him under the Contract.

1.47 **Defects After Completion**

The defects liability period will be 6 months from the date of completion of the Main Contract as certified by the Engineer.

1.48 **Damages for Delay**

Liquidated and Ascertained damages as stated in the Main Contract Agreement will be claimed against the Main Contract for any unauthorised delay in completion. The Sub-contractor shall be held liable for the whole or a portion of these damages should he cause delay in completion.

1.49 **Clear Away on Completion**

The sub-contractor shall, upon completion of the works, at his own expense, remove and clear away all plant, equipment, rubbish and unused materials, and shall leave the whole of the works in a clean and tidy state, to the satisfaction of the Engineer. On completion, the whole of the works shall be delivered up clean, complete and perfect in every respect to the satisfaction of the Engineer.

1.50 **Final Account**

On completion of the works the sub-contractor shall agree with the Engineer the value of any variations outstanding and as soon as possible thereafter submit to the Engineer his final statement of account showing the total sum claimed sub-divided as follows:

Statement A - detailing the tender amounts less the Prime Cost and Provisional Sums, included therein.

Statement B - detailing all the variation orders issued on the contract.

Statement C - Summarising statement A and B giving the net grand total due to the Contractor for the execution of the Contract.

1.51 **Fair Wages**

The sub-contractor shall in respect of all persons employed anywhere by him in the execution of the sub-contract, in every factory, workshop or place occupied or used by him for execution of the Contract, observe and fulfil the following conditions:

- a) The sub-contractor shall pay rates of the wages and observe hours and conditions of labour not less favourable than those established for the trade or industry in the district where work is carried out.
- b) In the absence of any rates of wages, hours or conditions of labour so established the sub-contractor shall pay rates and observe hours and conditions of labour are not less favourable than the general level of wages, hours and conditions observed by other employers whose general circumstances in the trade or industry in which the Contractor is engaged are similar.

1.52 **Supervision**

During the progress of the works, the Sub-contractor shall provide and keep constantly available for consultation on site an experienced English - speaking Supervisor and shall provide reasonable office facilities, attendance, etc., for the Supervisor.

In addition, during the whole of the time the works are under construction, the sub-contractor shall maintain on site one experienced foreman or charge-hand and an adequate number of fitters, etc., for the work covered by the Specification. The number of this staff shall not be reduced without the prior written approval of the Project manager or Engineer.

Any instructions given to the Supervisor on site shall be deemed to have been given to the sub-contractor.

One copy of this Specification and one copy of each of the Contract Drawings (latest issue) must be retained on site at all times, and available for reference by the Engineer or sub-contractor.

1.53 **Test Certificates**

The Sub-contractor shall provide the Engineer with three copies of all test reports or certificates that are or may be required by this Specification.

1.54 **Labour**

The Sub-contractor shall provide skilled and unskilled labour as may be necessary for completion of the contract.

1.55 **Discount to the Main Contractor**

No discount to the Main Contractor will be included in the tender for this installation.

1.56 **Guarantee**

The whole of the work will be guaranteed for a period of six months from the date of the Engineer's certification of completion and under such guarantee the Sub-contractor shall remedy at his expense all defects in materials and apparatus due to faulty design, construction or workmanship which may develop in that period.

1.57 Direct Contracts

Notwithstanding the foregoing conditions, the Government reserves the right to place a "Direct Contract" for any goods or services required in the works which are covered by a P.C Sum in the Bills of Quantities and to pay for the same direct. In any such instance, profit relative to the P.C Sum in the priced Bills of Quantities will be adjusted as deserved for P.C Sum allowed.

1.58 **Attendance Upon the Tradesmen etc**

The Contractor shall allow for the attendance of trade upon trade and shall afford any tradesmen or other persons employed for the execution of any work not included in this contract every facility for carrying out their work and also for the use of ordinary scaffolding. The contractor however, shall not be required to erect any special scaffolding for them.

1.59 **Trade Unions**

The contractor shall recognize the freedom of his work people to be members of trade unions.

1.60 **Local and other Authorities notices and fees**

The contractor shall comply with and give all notices required by any Regulations, Act or by Law of any Local Authority or of any Public Service, Company or Authority who have any jurisdiction with regard to the works or with those systems the same are or will be connected and he shall pay and indemnify the Government against any fees or charges legally demandable under any regulation or by-law in respect of the works; provided that the said fees and charges if not expressly included in the contract sum or stated by way of provisional sum shall be added to the contract sum.

The contractor before making any variation from the contract drawings or specification necessitated by such compliance shall give the Project Manager written notice specifying and giving the reason for such variation and applying for instructions in reference thereto.

If the contractor within seven days of having applied for the same does not receive such instructions, he shall proceed with the works in conforming to the provision regulation or by-law in question and any variation thereby necessitated shall be deemed to be a variation in accordance to the conditions of contract.

1.61 Assignment or subletting

The contractor shall not without the written consent of the Project Manager assign this contract or sublet any portion of the works, provided that such consent shall not be unreasonably withheld to the prejudice of the contractor.

1.62 Partial Completion

If the Government shall take over any part or parts works, apparatus, equipment etc. then within seven days from the date on which the Government shall have taken possession of the relevant part, the Project Manager shall issue a Certificate stating his estimate of the approximate total value of the works which shall be the total value of that part and practical completion of the relevant part shall be deemed to have occurred, and the Defects Liability Period in respect of the relevant part be deemed to have commenced on the date Government shall have taken possession thereof.

The contractor shall make good any defects or other faults in the relevant part that had been deemed complete.

The contractor shall reduce the value of insurance by the full value of the relevant part

The contractor shall be paid for the part of works taken possession by the Government

1.63 Temporary Works

Where temporal works shall be deemed necessary, such as Temporary lighting, the contractor shall take precaution to prevent damage to such works.

The contractor shall include for the cost of and make necessary arrangements with the Project Manager for such temporary works. For temporary lighting, electricity shall be metered and paid for by the contract

1.64 Patent Rights

The contractor shall fully indemnify the Government of Kenya; against any action, claim or proceeding relating to infringement of any patent or design rights, and pay any royalties which may be payable in respect of any article or any part thereof, which shall have been supplied by the contractor to the Project Manager. In like manner the Government of Kenya shall fully indemnify the contractor against any such action, claim or proceedings for infringement under the works, the design thereof of which shall have been supplied by the Project Manager to the contractor, but this indemnify shall apply to the works only, and any permission or request to manufacture to the order of the Project Manager shall not relieve the contractor from liability should he manufacture for supply to other buyers.

1.65 Mobilization and Demobilization

The contractor shall mobilize labour plant and equipment to site according to his programme and schedule of work. He shall ensure optimum presence and utilization of labour, plant and equipment. He should not pay and maintain unnecessary labour force or maintain and service idle plant and equipment. Where necessary he shall demobilize and mobilize the labour, plant and equipment, as he deems fit to ensure optimum progress of the works and this shall be considered to be a continuous process as works progress. He shall make provision for this item in his tender. No claim will be entertained where the contractor has not made any provision for mobilization and demobilization of labour, plant and equipment in the preliminary bills of quantities or elsewhere in this tender.

1.66 Extended Preliminaries

Where it shall be necessary to extend the contract period by the Project manager the contractor shall still ensure availability on site, optimum labour, materials, plant and equipment. The contractor shall make provision for extended preliminaries, should the contract period be extended and this shall be in a form of a percentage of the total Contractor works. Where called upon in the Appendix to these Preliminaries the Contractor shall insert his percentage per month for extended preliminaries that shall form basis for compensation.

Lack of inserting the percentage shall mean that the sub-contractor has provided for this requirement elsewhere in the Bills of Quantities.

1.67 Supervision by Engineer and Site Meetings

A competent Project Engineer appointed by the Engineer as his representative shall supervise the Contract works. The Project Engineer shall be responsible for issuing all the site instructions in any variations to the works and these shall be delivered through the Contractor with the authority of the Project Manager. Any instructions given verbal shall be confirmed in writing.

The project engineer and (or) the Engineer shall attend management meetings arranged by the Project Manager and for which the Contractor or his representative shall also attend. For the purpose of supervising the project, provisional sums are provided to cover for transport and allowances. The Contractor shall in his tender allow for the provision of management meetings and site inspections, as instructed by the Engineer, and also profit and attendance on these funds. The funds shall be expended according to Project Manager's instructions to the contractor.

1.68 Amendment to Scope of Contract Works

No amendment to scope of sub-contract works is expected and in case of amendment or modification to scope of work, these shall be communicated to all tenderers in sufficient time before the deadline of the tender submission. However during the contract period and as the works progress the Project Manager may vary the works as per conditions of contract by issuing site instructions.

No claims shall be entertained on account of variation to scope of works either to increase the works (pre-financing) or reduction of works (loss of profit-see clause 1.70)

1.69 Contractor Obligation and Employers Obligation

The sub-contractor will finance all activities as part of his obligation to this contract. The employer shall pay interim payment for materials and work completed on site as his obligation in this contract, as the works progresses. No claims will be entertained for pre-financing of the project by the sub-contractor, or for loss of profit (expectation loss) in case of premature termination, reduction or increase of works as the sub-contractor shall be deemed to have taken adequate measures in programming his works and expenditure and taken necessary financial precaution while executing the works. No interest shall be payable to the Contractor, except as relates to late payment as in the conditions of contract clause 23.3. The contractor shall where called upon, insert his price to compensate for any of the occurrence stated here (premature termination, reduction or increase of works), as a percentage of the contract sum in the Appendix to this section.

1.70 **APPENDIX TO SUB-CONTRACT PRELIMINARIES AND GENERAL CONDITIONS**

1. OMIT CLAUSE 1.12

2. ADD TO CLAUSE 1.17

Prices quoted shall include **16% VAT**

In accordance with Government policy, the **16% VAT and 3% Withholding Tax** shall be deducted from all payments made to the sub-contractor, and the same shall subsequently be forwarded to the Kenya Revenue Authority (KRA).

3. ADD TO CLAUSE 1.40

There is no labour camp

4. CLAUSE 1.66

Extended Preliminaries shall be equal to or less than liquidated and ascertained damages and are subject to mutual agreement.

SECTION D
GENERAL SPECIFICATIONS
OF
DIESEL ENGINE GENERATORS

CONTENTS OF SECTION D

DESCRIPTION

1. Extent of the Contract works
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3. Conformity with the Specification
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11. Installation
12. Spare Parts
13. Tools
14. Maintenance Period
15. Maintenance Contract
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1. Extent of Contract Works

The work covered by this specification includes the supply, delivery, installation, setting to work, commissioning to the satisfaction of the engineer and maintenance for a period of twelve months, of a Diesel Engine Generating set complete with all necessary ancillary equipment and as indicated.

2. Regulations and Standards

The equipment shall comply with all relevant statutory instruments and regulations current at the date of tender and in particular the following:

1. I.E.E Wiring Regulations
2. Regulation under the Electric Power Act
3. Factories Act
4. Any special regulations issued by the local Electricity or Water Undertakings
5. Kenya Bureau of Standards (K.B.S)

The equipment and all components shall comply with all relevant KBS standards and codes of practice or other equal and approved standards specifications and codes. Where the equipment or part of it complies with other internationally recognized standards which are less stringent than British standards or Codes of practice, then the difference is to be stated in writing and must accompany the tender submission.

3. Conformity with the specification.

The equipment to be supplied shall conform in all respects to the specifications. Unless another standard is specifically mentioned in the specification, all materials and practices employed in the works must, where such standards exist be in accordance with the current KBS standards or code of practices or in accordance with such other authorized standard appropriate to the country of manufacture as in the opinion of the Engineer ensures equivalent or higher quality. .

Alternative which deviate in any respect from the specifications may only be submitted in addition to the main offer required by the Specification. Such alternative must be fully detailed and the price indicated may be considered for adoption after the comparison of quotation submitted in accordance with the Specifications.

4. Information required with Tenders

Each tender shall be accompanied by 2 sets of technical manual showing general arrangement and typical details of the equipment offered.

All tender documents and any communications thereof shall be in English language.

5. Site Conditions

The contractor is deemed to have visited the site and if unable to locate it to apply to the Engineer for directions to enable him to do so. The contractor is deemed to have acquainted himself therewith as to its nature, position, means of access, etc and no claim in the connection will be allowed. No claim will be allowed for traveling or other expenses which may be incurred by the contractor in visiting the site or preparing a tender for the contract works.

6 Tropicalisation of Components

All components shall fully be tropicalised and protected against mould growth.

7 Surface finish

All ferrous metal work shall be either painted or processed to give a rust proof coating. Ferrous metal work to be painted shall first be either shot blasted or thoroughly wire brushed to remove all scale and oxide and immediately given one brushed coat or two sprayed coats of primer.

After not less than four hours, one brushed or two sprayed undercoats followed by one brushed or two sprayed finishing coats of heat and oil resisting quality paint shall be applied.

Successive coats of paint shall be slightly differing shades. Interior surfaces of electrical equipment enclosures shall be finished white and all external surfaces shall be finished grey (Bs 2660, colour 9-097)

Engine crank cases shall not be painted internally unless the paint is resistant to the lubricating oil.

8. Recording Drawings

The Contractor shall provide to the engineer four sets of the following drawings:

- a) Where indicated a building drawing showing details of cable entries, pipe entries and ducts required, and the exhaust system.
- b) A general arrangement drawing showing the principal dimensions and weight of the set.
- c) A general arrangement of the diesel engine.
- d) A general arrangement of the alternator and exciter showing terminal markings, polarity and phase rotation
- e) A general arrangement of the electrical control panel(s).
- f) A schematic and wiring diagram of the electrical control panel (s)

9. Maintenance Manual

Upon practical completion of the Contract works the Contractor shall furnish to the Engineer four copies of Manuals. The manuals shall be printed on good quality paper International A4 size and shall have stiff covers of durable materials.

The Manual shall contain full operating and maintenance instructions for each item of equipment, plant and apparatus set out in a form dealing systematically with each system. It shall include, as may be applicable to the contract works, the following and any other items listed in the text of the specification hereinafter:

- a) System Description
- b) Plant
- c) Valve Operation
- d) Switch Operation
- e) Procedure of Fault Finding
- f) Emergency Procedures
- g) Lubrication Requirement
- h) Maintenance and Servicing periods and Procedures
- i) Colour coding legend for all services
- j) Schematic and wiring Diagrams of plant, Apparatus and Switchgear
- k) Record Drawings, true too scale, reduced to international A4 size
- l) Lists of primary and secondary spares

The Manual is to be specially prepared for the contract works and Manufacture's standard descriptive literature and plant operating instruction cards will not be accepted for inclusion unless exceptionally approved by the engineer. The contractor shall, however, affix such cards, if suitable, adjacent to plant and apparatus. One spare set of all such cards shall be furnished to the electrical Engineer.

The maker's name, the rating of the set, the contract number, the location of the site and the year of installation shall appear on the front covers.

10. Factory Tests

The set shall be tested as a unit at the manufacturer's workshop (or elsewhere by agreement) for output and performance generally in accordance with the requirements of BS 649 and as 2613.

The Engineer shall be given adequate notice in writing of the date and time of the work tests and he, or his representative shall if he so desires, be present at such tests and given all reasonable facilities for his own inspections during the course of the tests.

Whether or not the Engineer or his representative attends the tests, he shall be furnished, by the Contractor, with copies of all relevant tests certificates.

11. Installation

Installation of all plant and equipment shall be carried out by the contractor under adequate supervision from skilled staff provided by the plant and equipments manufacturer or his appointed agent.

Plant or equipment which are shipped before the relevant test certificate has been approved by the Engineer shall be shipped at the contractor's own risk and should the test certificate not be approved, new tests may be ordered by the Engineer at the contractor's expense.

12. Spare parts

The contractor shall submit with his tender a separate priced list of recommended spare parts including any optional extras which he recommends should be purchased for the set and its control equipment and are not supplied as standard with the unit. The initial spares required at handover shall be deemed to have been included in the tender pricing.

13. Tools

A complete set of tools and general and special testing equipment shall be provided, including grease and oil guns, necessary for the normal maintenance of the set and its controls.

The tools shall be of the best quality, the spanners being of chrome vanadium steel, and shall be contained in a suitable robust steel tool box with lid fitted with a lock and two keys. All tools and testing equipment may be used by the Contractor in the execution of the contract works but will not be accepted as part of the Contract works by the Engineer unless they are handed over in clean and undamaged condition, in perfect working order and effectively in new condition.

14. Maintenance period

The Contractor shall maintain the complete set and associated control equipment forming the unit for a period of twelve calendar months from the date that the unit is put into commission and regular use.

During this maintenance period, the contractor shall at his own expense.

- a) Make good any defects in the unit and replace any parts that fail or show signs of weakness or undue wear in consequences of faulty design, workmanship or materials.
- b) Visit the site with all diligence and attend to any such defect that arises within 48 hours of receiving notification of the defect.
- c) Carry out regular examination and services of the unit at the intervals laid down by the manufacturer, or every three months, whichever is the sooner, the service examination to include all necessary adjustments, greasing, oiling, cleaning, changing of lubricating oils (where necessary) to keep the unit in sound and efficient working order.

- d) Instruct the maintenance personnel in the proper operation, care and maintenance of the set and its equipment.

If during the maintenance period the unit is or is likely to be out of use for a period greater than 48 hours, due to the unit or part thereof developing a defect attributable to faulty design, workmanship or materials, or due to neglect of maintenance by the Contractor, the Contractor shall at his own expense immediately provide and install on free loan a suitable temporary unit for use until the required repair or replacement has been satisfactorily undertaken and the original set (or its replacement) put to proper working order.

At the end of the twelve months period of maintenance the Contractor shall (in addition to normal servicing work) carry out a compressive examination and test of the set and its auxiliaries, to ensure that the unit is in proper working order and in satisfactory condition for handing over to the Engineer whose representative shall be present at such examination and test.

15. Maintenance Contract.

The Contractor may be called upon to enter into maintenance contract with the Employer for the servicing the Generating sets after the expiry of the initial maintenance period. The Contractor shall indicate his willingness to carry out this service at the time of tendering and shall ensure that component personnel are available locally to be called at short notice to attend to Generator faults.

16. Transport and Storage

All plant equipment shall, during transportation, be suitably packed, crated and protected to minimize the possibility of damage, and prevent corrosion or other deterioration.

On arrival at site all plant and equipment shall be examined and any damage to parts and protective priming coats made good before storage or installation.

SECTION E

PARTICULAR SPECIFICATIONS

FOR THE

STANDBY GENERATING SYSTEM

CONTENTS OF SECTION E

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PARTICULAR SPECIFICATION FOR THE STANDBY GENERATING SYSTEM.

1 Location of site

The site for the proposed Contract Works is at **The Proposed Anatomy Lab in Masinde Muliro University of Science & Technology located along Kakamega-Webuye Road within Kakamega Municipality.**

2 Climatic Condition

The following climatic conditions apply at the site of the Contract Works and the equipment, materials and installations shall be suitable for these conditions:

Mean Maximum Temperature:	30 ⁰ C
Mean Minimum Temperature :	15 ⁰ C
Relative humidity range :	45% - 99%
Atmospheric salt content:	Less than 0.02%
Dust in Atmosphere:	Relatively dusty conditions prevail
Longitude (approximately):	34 ⁰ 45'E
Latitude (approximately):	0 ⁰ 17'N
Altitude:	1535m above sea level
Solar radiation:	630 Langleys

3 Operating Conditions

The equipment and all components shall be suitable for the operation in ambient conditions of 5⁰ C to 40⁰C and up to 100% relative humidity

- i) in an unheated ventilated building
- ii) in the open air as specified

Unless otherwise stated all ratings of equipment and components shall be interpreted as site rating and NOT sea level or other ratings.

4. Functional Objectives

The set shall be capable of operating continuously and satisfactorily in a medium dust laden atmosphere as defined in BS 1701 and in accordance with BS 649.

The generating set is required for standby duty and will be connected to the switchboard through a circuit. It shall have an automatic mains failure control, appropriately interlocked with the other incoming supply. Provisions shall be made in the control circuit of the generator for automatic and remote push button control, including the terminals and cable glands for all external cables, which will be supplied by others, where specified. It shall also be possible to start, operate and stop the set manually, independent of any automatic features.

Within the operating conditions specified in part 3 above the set shall be capable of starting and accepting full load within the shortest possible time, and in any case, in not more than 10 seconds. Any special features included to achieve this shall be stated in Section F.

5. Scope of the Contract Works

The work covered by this Specification includes the design, manufacture, supply, delivery, installation, commissioning and testing to the satisfaction of the Engineer and maintenance for a period of twelve months of a new generating set complete with all necessary ancillary equipment.

The equipment to comprise **100KVA, 415 volts/3 phase /50Hz (PRIME RATED)** continuously rated diesel generator set with all integral accessories, and all necessary equipment for the safe and efficient working of the set. The diesel generator set will be site rated at level of 1660 metres, Kenya Datum.

Diesel generator set to include:

- a) Push button starting, starting battery and mains power supply trickle charger to be included.
- b) 72 hour operational running capacity auxiliary fuel oil storage tank, loose transfer pump and duplex oil strainer.
- c) An integral belly/ base fuel tank for daily service with an operational running capacity of 8 hours
- d) All interconnecting pipe work, valves and fittings between the storage tank, base tank and the diesel engine.
- e) An automatic generator control unit
- f) A diesel generator control cubicle
- g) Acoustic enclosure/ sound attenuated canopy
- h) All local wiring
- i) Maintenance tools and spare parts as specified.

6 Performance Objective

The output rating of the set in KVA, the voltage, the number of phases and the frequency shall be as specified in Bill No.2 Schedule 1 of the Bills of Quantities.

Within the operating conditions specified the set, equipped with its standard air intake filters, shall be capable of delivering its rated output continuously at rated voltage and 0.9 lagging power factor and of delivering 10% in excess of the continuous maximum rating for a period of one hour in any 12 hour period.

The steady state voltage shall be maintained within 2 ½ % of the rated voltage under control of the voltage regulator between the cold start ambient conditions and the maximum working temperature, from no load to 10% overload and from unity to 0.8 lagging power factor. After any change of load the voltage shall not vary by more than + 15% of the rated voltage and shall return to within +/- 3% within 3 seconds and to within 2 ½ % of rated voltage within 1 seconds. On starting the voltage overshoot shall not exceed 15% and shall return to within 3% in not more than 3 seconds.

The governing of the set shall be such that the steady load speed band shall not exceed 1% of rated speed. Sudden removal of the full load at rated frequency shall not cause the frequency to rise above 110% of the rated frequency and it shall return to within 105% of the rated frequency within 3 seconds. The resultant steady state frequency shall return to 104% within 15 seconds. If full load is then reimposed the frequency shall not fall below 94% of rated frequency and shall return to 99% within 3 seconds and to the rated frequency within 15 seconds. The cyclic irregularity of the set at full load shall not be worse than 1/150.

The deviated interference shall be suppressed to the limit specified in BS 800 and BS 833.

7. Generating Set Arrangement

Unless otherwise indicated the set and its auxiliaries shall be mounted on sufficiently substantial underbase. All items which must be held in correct relative alignment shall be located by means of dowels.

The set shall be designed and supplied for operation bolted to the floor on robust anti-vibration and shock absorbing devices. They shall have adjusting screws for optimum setting and levelling and be so designed and installed that no appreciable engine vibration shall be transmitted to the floor or to any surrounding.

Bearings shall be suitable for operation over long periods without the need for replacement of the lubricant. Oil lubricated bearings shall be fitted with a visible oil level gauge.

8. Diesel Engine

8.1 General

The engine shall comply in design and performance with BS.649 “Diesel Engines for General purposes” or its approved equivalent. The engine shall be designed for satisfactory operation on fuel oil and lubricating oils complying with BS. 2869.

The engine shall be totally enclosed, with forced lubrication from an integral pump having on the suction side a coarse strainer and on the delivery side a dual ‘full flow’ fine filter with a changeover cock incorporating pressure by-pass, so that the oil flow to the engine is maintained if the filter should choke. Alternatively a single filter of the self-cleaning type fitted with a by-pass relief valve and having the same filtration performance may be provided. Manual lubrication of any part of the engine will not be accepted. The capacity of the lubricating oil system shall be sufficient to enable the engine to run continuously for 12 hours at any load without replacement.

A filter with a by-pass relief valve shall be inserted in the fuel line immediately before the pump(s). The fuel filter element shall be incapable of passing particles larger than micrometers. The fuel system shall be so arranged that fuel resulting from filter, pump or pipe spillage shall be incapable of entering the engine sump.

Air filters complying with KS 06-294: 1986, Grade ‘A’ and Grade ‘B’ suitable for use in a dusty atmosphere shall be fitted on the engine air intake(s)

No significant critical speed of the complete shaft system, including the generator, shall be within 15% of the rated speed.

A manually reset overspeed trip shall be fitted to stop the engine if its speed exceeds the rated speed by 15%. A mechanical trip is preferred but an electrical overspeed trip may be offered. Both types shall be equipped with a pair of contacts which close on operation of the trip. If the device is belt driven, at least two belts shall be provided and the drive shall be capable of carrying full load with one belt removed.

The set shall be arranged such that on shut-down the cooling water temperature shall not rise with residual heat so that the high water temperature lock-out operates. The engine may be naturally aspirated as pressure charged, or as indicated.

The starting shall be by means of electricity supplied from a starter battery. The starter motor shall be of axial type, de-energizing by a device operated from the engine. A means of manual starting shall also be provided.

Suitable means shall be provided for running by hand the engine main shaft and the associated generator to facilitate inspection and overhaul.

If weekly test runs are insufficient to prevent the drying out of the bearings, means shall be provided to ensure that the bearing surfaces are adequately and automatically wetted with lubricating oil either periodically or immediately prior to every start.

The engine shall be capable of being started from any crank position.

A thermostatically controlled 240-volt immersion heater may be fitted in the engine lubricating oil sump to facilitate starting. The heating surface loading of any lubricating oil heater(s) shall not exceed 0.015 watt per square millimeter to avoid carbonization of oil.

An efficient exhaust silencer with adequate draining facilities shall be supplied, and shall either be mounted on the set or installed in a generator room constructed as shown on the drawing indicated. The exhaust silencer system shall be so arranged that it may be readily relocated if required. Where any additional piping bends and fittings are specified, the manufacturer shall advise on any problems involved.

8.2 Fuel Oil System

An auxiliary fuel storage tank whose minimum capacity shall be sufficient to run the engine continuously on full load for 72 hours shall be installed in the position indicated in the contract drawing. It shall be supplied complete with supports.

The tank shall be fitted with a hand operated fuel with a flexible suction hose to permit filling from a drum on the floor.

A three way cock shall be fitted in the line from tank to the engine to enable the fuel to be supplied from a source other than the storage tank.

The position of the cock shall be clearly marked 'MANUAL, AUTOMATIC, OFF' as applicable.

A duplex oil filter shall be supplied between the storage tank and the diesel engine. The duplex filter shall be capable of being cleaned without dismantling, or in interruption of the fuel flow, and shall be easily maintainable. The tank shall be equipped with a graduated dipstick, a clearly visible contents' gauge (not of the site glass type) and with drain, vent, overflow and inlet and outlet connection.

The set shall also have an integral belly/base fuel tank for daily services with an operational running capacity of 8 hours.

8.3 Lubricating Oil System

An engine driven integral gear type lubricating oil pump shall be provided. The lubricating oil system shall include an oil cooler and fine mesh filters, together with devices to indicate lubricating oil pressure and to initiate a 240 volt A.C. Lubricating oil Low pressure Alarm, Lubricating Oil High Temperature Alarm and Cooling Water High Temperature Alarm.

As separate 240 volt A.C. Motor driven automatic lubricating oil priming pump shall be provided for intermittent operation when the diesel is lying idle.

8.4 Starting of Engine

The diesel generator set shall have facilities for local and remote push button starting, with a Local/ Remote/ Automatic selector switch at the local panel.

On mains failure the engine shall be capable of being automatically started from battery located near the generator set.

The battery shall be complete with drip tray and trickle charger.

All necessary relays, contacts, switches and miscellaneous items for the starting sequence shall be supplied and installed in the local control panel.

The system shall be designed to give maximum reliability in starting.

The Contractor shall state in detail his proposals to ensure reliable starting and prevention of deterioration of the diesel engine, generator and exciter during idle periods.

All manually operated valves and controls on whose setting the correct operation of the automatic starting equipment depends shall be provided with locking devices.

8.5 Cooling System

The engine may be air or water cooled unless a preference is indicated.

8.5.1 Air Cooling of Engine

Cooling air for the engine and lubricating oil shall be provided by fan(s) mechanically driven from the engine. The cooling system shall be adequate for the total requirements of the engine when running on continuous full load and on 10% overload for one hour in accordance with BS 649 and under the conditions of Section 3.

The engine shall be so designed that the cooling air discharges into or is drawn through a reasonably airtight ducted assembly enclosing the lubricating oil cooler, the cylinder barrels and the cylinder heads of the engine.

This assembly shall terminate in a flanged outlet to which trunking may be readily attached when necessary, to enable hot air from the cooling system to be discharged outside the building.

Belt driven fans shall have at least two belts and the drive shall be capable of transmitting the full load with one belt removed. The cooling air temperature shall be controlled so as to maintain a safe working temperature of the cylinder head(s) and the engine shall shut down if the maximum is exceeded.

8.5.2 Water Cooling of Engine

A radiator of the air blast type shall be provided. It shall either have separate sections for water and for lubricating oil or be arranged for jacket water cooling only.

The radiator shall be mounted on the set and the fan(s) shall be mechanically driven from the engine. Where indicated the radiators shall be suitable for remote wall or floor mounting, in which case the fan shall be electric motor driven from a supply similar in voltage, phase and frequency to the alternator output and shall be started on line.

Where remotely mounted, the fan shall only operate when generating set is running and shall be controlled by a thermostat mounted in the radiator such that the fan motor will start on rising temperature 50⁰C and stop on falling temperature.

Belt driven fans shall be provided with at least two belts and the drive shall be capable of transmitting the full load with one belt removed. Circulation of the jacket water and lubricating oil through the respective radiator sections and /or heat exchanger shall be by means of pumps mechanically driven by the engine. Belt driven pumps shall be provided with at least two belts and drive shall be capable of transmitting the full load with one belt removed.

Circulation by thermo-syphon will be accepted provided the engine will operate under the conditions of section 6 and in accordance with BS 649.

An easily visible flow indicator provided with contacts shall be fitted in the water outlet from the engine; the contacts shall close in the 'no flow' condition and shut down the set.

Alternatively in thermosyphon systems and sealed or pressurized radiator systems the flow indicator may be dispensed with providing the engine shuts down by the operation of the high temperature or low oil pressure safety devices in accordance with section 8.3.

A thermostatically controlled diverter valve shall be inserted in the engine water discharge pipe with a return to the circulating pipe section, to maintain the circulating water at the optimum temperature irrespective of the load. Alternatively a thermostatic bypass will be accepted.

A radiator make-up/expansion tank, fitted with float control inlet, shall be provided. If a sealed or pressurized unit is offered the tank may be dispensed with.

Where indicated provision shall be made on the radiator framework to permit the attachment of ducting for the discharge air.

A thermometer shall be mounted near the cylinder head(s) to indicate water temperature.

Where a lubricating oil cooler is fitted, thermometers shall be mounted at the oil inlet too and outlet from the engine. Alternatively, thermocouple may be provided at all thermometer positions and taken to an instrument panel.

Adequate drains shall be provided at low points in the water and lubricating oil systems of the radiator and, where applicable, of the heat exchanger.

8.6 Governing System

Governing shall conform to B.S. 640 Class A. The governor shall control the frequency within the limits stated in Section 6 Part. Manual speed adjustment shall be provided over a range of +/-15% of the rated speed at any load. The governor system shall be of the mechanical or hydraulic type. In addition the engine shall be fitted with an approved overspeed trip device which shall operate independently of the normal speed governor and shall act directly upon the fuel supply to the engine.

The overspeed shall act at a speed of 12% to 15% in excess of normal operating speed.

8.7 Exhaust System

The diesel engine shall be provided with a suitable exhaust system for horizontal discharge outside the diesel generator room.

The silencer shall be of spark arresting type and shall be equipped with cleaning and draining arrangements.

If an exhaust driven turbo-charger is supplied it shall include air intake filters, mani-folds and outlet manifolds.

All necessary ducting, piping, supports and lagging required for the system shall be included.

Weatherproof wall boxes permitting expansion shall be fitted where the exhaust piping passes through the building wall or roof. Pipe work shall be connected at site by butt weld connections or use of flanged joints. The use of screwed connectors shall be avoided.

Flanges shall conform to the appropriate Table of B.S.10: 1962. Welding of flanges at site shall be carried out in accordance with B.S.806. The faces of flanges shall be machined and the backs shall be machined or spot faced to receive the bolt heads.

Valves and fittings shall be of approved design and manufacture and shall be subject to the same tests as the highest pressure piping or vessel to which they are connected.

8.8 Engine Instruments

Unless otherwise indicated the following instruments shall be provided:

- (a) a lubricating oil pressure gauge
- (b) a running hours meter
- (c) a tachometer
- (d) a water thermometer
- (e) an exhaust gas pyrometer or thermometer mounted near the mani-fold
- (f) lubricating oil thermometers on the inlet to and outlet from the engine, when a lubricating oil cooler is fitted
- (g) Exhaust turbo-blower pressure gauge(s) as applicable

8.9 Pipe work, Valves and Fittings

All piping shall comply with requirements of KS-259:11989 for mild steel pipes.

Provision shall be made for ready handing of all parts of the plant during assembly or disassembly of the unit.

Adequate provision shall be made for attaching lifting devices, slings and eyebolts.

9. The Generator (Alternator and Exciter)

9.1 General

The generator shall comply with B.S.2613:197, for service in tropical conditions, and shall withstand being idle for considerable periods without any harmful drop in the insulation resistance.

The generator shall have a ***Prime rated net output of 100KVA*** as specified in the schedules of the Bills of Quantities, at 0.8 lagging power factor, 415 volts, 3 phase, 4 wire, 50 Hertz with brushless rotating rectifier excitation system and voltage regulator. It shall be directly coupled to the engine and be sized such that it will accept the maximum output of the engine including overload. The output voltage shall be maintained within plus or minus 2 ½ % from no load to full load conditions. The alternator shall be capable of operating within the range of plus or minus 15% of the nominal voltage according to the automatic voltage regulator.

Three phase machines shall be star connected, and a diagram showing the terminal marking and phase rotation shall be provided in the terminal box. Cables connecting the machine winding and machine terminals shall not have a higher de-rating factor for temperature than the windings.

The insulation shall comply with BS 2757 excluding Classes Y and A. The insulation shall have an oil, moisture and fungus proof finish, with a surface which will not retain dust or condensation. It shall be possible to put the set in service after long periods in unheated storage without necessarily drying out the insulation.

The alternator shall be capable of withstanding a short circuit for three seconds when under the control of the automatic voltage regulator.

9.2 Excitation

Excitation shall be by means of brushless direct coupled exciter armature.

The alternators shall be designed for an excitation voltage at full load of not less than 50 Volts unless prior approval is given.

9.3 ELECTRICAL CONTROL PANEL

The Automatic Mains Failure control panel shall be provided and fitted with the following:-

- a) Two four pole contactors and two TP & N incoming MCCB's each of suitable rating for controlling the supply from the mains transformer and standby generator.
- b) An automatic voltage regulator for the set.
- c) Control equipments as necessary including phase failure protection relay for both the mains supply and the generator supply (with both under and over voltage protection) and phase sequence protection relay for the mains supply all to fulfill the functional requirements and automatic changeover as detailed in Part 9.3.2
- d) One ammeter and a selector switch to measure each phase current and neutral current
- e) One voltmeter and a selector switch to read line to line and line to neutral voltage
- f) A frequency meter

The meters shall comply with BS 89, table 7.

9.3.1 General

The set is to be used for mains failure duty and an automatic starting panel shall be provided which shall contain all necessary equipment for controlling the automatic starting and stopping of the set, lubricating oil priming (if necessary), all auxiliaries, fault warnings and shut downs. All faults, warning and shut-downs shall be separately indicated. There shall be test facilities for indication lamps, etc, preferably by means of a single test button.

Means shall be provided for isolating all supplies to the starting panel either by an isolating switch or by withdrawable fuses.

When the set is stopped other than under lock-out conditions, it shall be self-resetting ready for the next start.

The set shall be suitable for starting by manual means. e.g. by cranking or direct operation of the starter solenoid.

All switches and push buttons shall be clearly marked to indicate their function.

It shall be possible to operate the 'Start' and 'Stop' buttons and to see the 'Set Failure' indications without opening the panel doors.

9.3.2 Automatic Changeover Controls

The controls shall be installed and wired in the machine control panel.

The control shall be provided such that on failure of the normal electricity supply, it will automatically initiate the starting of and effect the transfer of load to the standby generator.

The schematic for the controls shall be approved by the Electrical Engineer before manufacture commences.

Where failure of the normal supply is referred to, it shall be defined as follows:

- a) Complete loss of voltage in one line or in all the three lines
- b) Falling of voltage below 85% of the normal voltage between two lines or line and neutral
- c) Voltage overshoots to 110% of the normal voltage between two lines or line and neutral
- d) Incorrect phase sequence

On failure of the normal supply, the unit shall operate in the following manner:

- (a) After a delay, adjustable from 0 to 15 seconds (to avoid operation by a transient dip in voltage) a signal shall be given to start the standby generating set.
- (b) On receipt of a signal from the standby generating set that it is ready to take load, and providing that the failure of the normal supply still persists, the normal supply contactor in the control panel shall open and the standby contactor shall close. If the normal supply has been restored before the changeover has taken place, the contactor shall not operate and the starting relay contacts shall open to initiate the shutting down of the standby generating set.

When the standby supply is in operation and the normal supply is restored and remains within 10% of rated voltage on all phases for a pre-set time (adjustable up to 120 second) the standby contactor shall open and the normal supply contactor shall close; the starting relay contacts shall then open to shut down the generating set.

Provision shall be made so that automatic return to normal supply can be prevented if required.

Once a start signal has been sent to standby generating set, the engine starting sequence shall be allowed to continue until the set is ready to take the load before a stopping signal is sent. A push button labelled 'Test' shall be provided to enable a failure of normal supply to be simulated. If the button is pressed and released the equipment shall complete the starting sequence, and when the set is ready to take load it shall be shut down. If the button is held depressed the equipment shall change over to the standby supply when the set is ready to take load.

Indicating lamps or illuminated panels shall be provided on the front of the panel. They shall be appropriately labelled, easily visible and shall give the following information:

- 'Main Supply Available'
- 'Generator Supply Available'
- 'Mains Supply on load'
- 'Generator Supply on load'

9.4 Lock out

9.4.1 General

The set shall stop and lock out to prevent further starting when:

- a) It fails to start when the electric starter motor has been in operation for 20 seconds under automatic start condition.
- b) The lubricating oil pressure falls to a value at which it would be unsafe to continue running the engine.
- c) The cooling water does not flow, when the engine is fitted with a visible flow indicator on the cooling water system.
- d)
 - (i) In water cooled engines the cooling water temperature exceeds a predetermined limit.
 - (ii) In air cooled engines the cylinder head temperature exceeds a safe maximum.
- e) The overspeed trip has operated.

9.4.2 Failure of the circuits concerned in sub-section 9.4.1 (b) to 9.4.1(e) shall cause a set to shut down. Reset of lock out shall be by hand.

9.5 Fault indication

Each lock-out detailed in section 9.4.1 shall be indicated by a lamp on the panel together with an indication of the fault causing the shut-down. The fault warning lights shall be set to operate before the lock-out.

9.6 Starting Battery and Charger

The battery shall be 24 volts and capable of with-standing the loads imposed upon it by its specified duties. It may be of lead-acid or alkaline type and shall be of sufficient capacity for four starts in succession once in an eight-hour period. Auxiliary circuits connected to the battery shall be protected by fuses.

The battery shall be used to supply an automatic starting and control equipment, and relay operation shall not be impaired when the battery is supplying current to the starter motor.

A single phase supply for battery charging shall be available from the main L.V. SWITCHBOARD.

A charger shall be provided which will recharge the battery after engine starting and maintain it in a charged condition when the set is standing or is in service. It may also supply the load of any automatic starting and control equipments, and an additional load up to 24 watts when the set is running and in service.

An alternative quick charge rate shall be provided. The charger shall be fitted with an ammeter to measure the charger and discharge current excluding the starter motor current.

9.7 Wiring and Earthing

Power cables and small wiring cables interconnecting major components shall be of the heat and oil resistant type and shall be metal sheathed or run in metal ducts or metal conduit, which shall be coded and terminated with lugs or eyes or to be soldered, the terminations shall be clearly marked with the numbers and letters of the terminals to which they are connected. Terminals shall be numbered or lettered, easily accessible and fitted with individual insulating barriers or adequately spaced. Barriers shall be fitted to separate control terminals from power wiring terminals.

All metal work housing electrical equipment shall be bonded to a brass earthing terminal and connected to station Earth and as detailed in the schedule.

9.8 Contactors

Contactors shall have magnetic circuits designed for a.c or d.c operation and shall be rated in accordance with ks 04-182:1982. Four pole- contactors shall be fitted for three phase- equipment and two-pole contactors for single phase equipments. Main and auxiliary contacts shall be silver faced or better.

9.9 Relays

Relays shall preferably be of sealed type mounted in approved plug-in bias with spring loaded retainers but if this is not practicable they shall be mounted on individual sub-bases and wired so that easy access is obtained to soldered connections. Unsealed relays shall be enclosed in individual or common dust protecting cases.

Time delays, if of the pneumatic type, shall operate on filtered air. The thermal type of time delay relay will not be accepted.

9.10 Fuses

Fuses shall comply with KS-183:1978. A spare fuse cartridge for each pole shall be mounted inside each equipment.

9.11 Rectifiers, Capacitors and solid State components

Rectifiers, capacitors and solid state components shall be suitable for any transient voltage and high currents likely to be uncounted during the operation of the equipment and for the internal operating temperature of the enclosures at the specified maximum external ambient temperature.

9.12 Enclosures for Equipment

Enclosures for electrical and control equipment shall be drip proof and dust protecting, with adequate front and rear access as necessary for maintenance and repair. Special attention shall be given to the method of construction and to the mounting of the components to minimize the effect of vibration. Diagrams of connections in durable form shall be mounted inside the enclosures.

10 Lifting Gear and Handling.

Provision shall be made for ready handling of all parts of the plant during assembly or disassembly of the unit. Adequate provision shall be made for attaching lifting devices, slings and eyebolts.

11 Commissioning

The Contractor shall include for fully commissioning the set and its control equipment and for the purpose of the required tests, shall provide all necessary instruments, tools, fuel and lubricating oil.

The following tests and checks as applicable shall be carried out by the contractor in the presence of the electrical engineer or his representative.

- a) Check that the main frame is level in all directions, engine and generator shafts are in proper alignment and the vibration absorbing devices are properly installed and located.
- b) Check water and sump oil levels and that the water jacket and radiation heaters (if fitted) are in working order.
- c) Check the battery electrolyte levels and the specific gravity.
- d) Examine the containers in which the fuel and lubricating oils were delivered and check that the type and grade of oils are as recommended for the unit.
- e) Ensure that sufficient fuel oil is in the fuel tank for a two hours test run.
- f) Check that all radiator and engine block water drain points are free from sludge and other blockages.
- g) Check engine bolts, main drive coupling, valve clearance, fuel pumps settings, governor settings, pipeline connections, water hose, exhaust couplings, flexible pipe work etc, and where a separate cooling water tank is fitted, that the water levels is satisfactory and the ball valve and overflow work.
- h) Check all outgoing connections on the generator and the control panel. All lugs for principal connections shall have clean and bright contact surfaces. A suitable abrasive shall be used where necessary.
- i) Check access panels and doors for proper opening and closing and for functioning of any interlocks fitted.
- j) With the set isolated from the main supply and the selector switch in the 'manual' position, start the engine by means of the 'start' push button and allow it to run up to normal speed. Check that the main battery charger is automatically switched off to avoid its being overloaded by the reduction in voltage across the battery. Where a battery charging dynamo is fitted, check that the main battery charger is disconnected by the operation of the auxiliary contact during the time the engine is running.
- k) Check instruments and gauges for normal operation and response and that the generator voltage is being maintained within the prescribed limits, making due allowance for no-load conditions. Compare the reading of the frequency meter with that of engine tachometer, where both are fitted

- i) Stop engine by turning selector switch to off position and verify that the generator contactor opens at between 95% and 85% of normal voltage. Re-check water and oil levels.
- m) Turn selector switch to 'Auto' position. Disconnect the sensing circuit supply and check that the set starts, the mains contactor opens, and the generator contactor closes in correct order. Reconnect the sensing circuit to verify that the engine stops on restoration of the mains supply and the contactors operate correctly. Check voltage sensing and time delays on each phase in turn and also the push buttons for mains failure simulation and engine stopping operate correctly.

NOTE: Running of the engine for any length of time under no load condition is undesirable and tests calling for such operation should be carried out in as short time as possible consistent with thoroughness.

- n) Operate the necessary isolators and switches to put the set on standby for essential services network with the mains failure simulation push, verify that the set operates correctly with the appropriate time delay for taking up load and that the carrying of the load and its distribution over three phases are satisfactory.
- o) Run the set at various loads for periods totaling at least 30 minutes. Check that the voltage and frequency are being maintained within the required limits with large alterations of load. Note the rate of charge on the dynamo ammeter with the engine running (if a dynamo is fitted), and the rate of charge on the battery charging ammeter with the engine stopped. Check against manufacturers recommendations and adjust charging rates if necessary.
- p) Check that the various engine safeguards operate satisfactorily.
- q) Check the vibration absorbing devices for proper operation and that performance of all flexible connections, both mechanical and electrical, is satisfactory.
- r) When all tests are satisfactory and agreed with the Engineer or his representative, the lubricating oil and water levels shall be finally checked, the fuel oil tank replenished and set left in normal operating order.
- s) An initial supply of all lubricating oils and greases shall be provided by the Contractor.
- t) Additional lubricating oil shall be provided for recharging the engine sump once together with a supply of lubricating oils and greases to cover the normal use and serving of the set during the 12 months maintenance period referred to in Part 14 of Section D.

SECTION F

INFORMATION SUPPLIED TO THE TENDERER

CONTENTS OF SECTION F

DESCRIPTION

1. General
2. Information on the set supplied to the tenderer
3. Deviations from the specifications

1. GENERAL

- a) The tenderer shall read Part 2 of Section F in full with details of the set he is to install.
- b) Any equipment which he wishes to offer but which does not comply with the specification shall be fully detailed in Part 3 of section F together with details of any other deviation or omissions which he may wish to make.

Any tender which is submitted without filling these sections will be deemed non-responsive.

- c) The tenderers shall be required to submit, together with their tenders, brochures detailing technical specifications of the accessories they intend to supply. Any tender which is submitted without the brochures will be deemed non-responsive

2 – INFORMATION OF THE STANDBY GENERATOR SET TO BE SUPPLIED

ITEM	EQUIPMENT	DETAILS	
1	<u>Diesel Engine</u>		
	Make:		
	Type:		
	Bore		
	Stroke		
	Net continuous rating (B.S.649)		
	(a) at sea level	.....KVA
	(b) at site (1535m ASL)	.....KVA
	Speed	.....Rev/min
	Supercharger Make: Type:		
	Air cooling Quantity of air required Details of ducting		
Water cooling Details of water cooling circuits			
Radiator: Make: Type: Length(mm) Breadth(mm) Height(mm)	.....mm .....mm .....mm	
	Aspiration Method Quantity of air required (mm/sec)	.....mm/sec

ITEM	EQUIPMENT	DETAILS
2	<u>Auxiliaries</u> Filters Coolers Primary pumps Tachometer and drive Governor Special cold start devices Running hours meter Safety devices High temperature Low pressure (lubricating oil) Cooling water flow trip over speed trip Speed sensing devices Lubricating oil thermometers: Number Position (s) Water thermometer Position Exhaust thermometer Position Starting Battery Battery charger Immersion Heater	
3	<u>Lubrication</u> Recommended oil (s) Sump Elsewhere (state where)	.....Grade .....quantity (litres)

4	<u>Alternator and Exciter</u> Make and type Bearings Insulation class (BS.2757) Quantity of cooling air required	Ball/Roller/Plain m ² /sec
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ITEM	EQUIPMENT	DETAILS
5	<u>Electrical Control Panel</u>	<u>Make</u> <u>Type</u>
	Main circuit breaker	<u>Rating</u> Amps
	Bypass switches (Amps)	..... Amps
	Automatic changeover contactor (Amps)	..... Amps
	Automatic voltage regulator (Amps)	..... Amps
	Ammeter selector switch (Amps)	..... Amps
	Voltmeter selector switch (Volts)	..... Volts
	Frequency meter (Hertz)	..... Hertz
	Ammeters ----- No (Amps)	..... Amps
	Voltmeters .....No. (Volts)	..... Volts
	Power factor meter (KVAR)	..... KVAR

6	<u>Performance data</u>	<u>Rated output (Standby)</u>	<u>Consumption (Litres/hour)</u>
	Fuel consumption	110%	.....Litres/hr
		100%	.....Litres/hr
		75%	.....Litres/hr
		50%	.....Litres/hr
	Maximum output (1535m ASL)	<u>Ambient temp.(°C)</u>	<u>Out-put KVA</u>
			<u>Standby Rating:</u> <u>Prime Rating:</u>
		20 ⁰ C	..... .....
		25 ⁰ C	..... .....
		30 ⁰ C	..... .....

ITEM	EQUIPMENT	DETAILS
6	Performance Data (cont'd)	
	Voltage regulation%
	Frequency regulation%
	Time to accept 75% full load from 5 ⁰ C	.....Seconds
	Time to accept 100% full load from 5 ⁰ C	.....Seconds
7	<u>Physical Details</u>	
	Auxiliary fuel storage tank for 72 hour operational running capacity	.....Litres
	Size of set	.....mm long, .....mm wide, .....mm high
	Total weight of set	..... Kg.
	Integral belly/base fuel tank for daily service for 8 hour operation capacity	..... Litres
	Enclosures	Sound attenuated enclosure
	Weather proofing	-----
8	<u>Operational Details</u>	
	Description of Operation Sequence of the automatic control Details of drawings, literature, etc., included with tender.	

3. **DEVIATIONS FROM THE SPECIFICATION**

The tenderer shall give details of any equipment which does not meet the specification, or any other deviations, omissions, additions or alternatives in respect of the set which he is offering.

If none, write **NONE**.

SECTION G
SCHEDULE OF CONTRACT DRAWINGS

CONTRACT DRAWINGS

- 1.0** There are no drawings in this contract.

Locations of the Generator set and the Mains switch room including cable routes shall be identified on site.

The contractor shall however be required, on commissioning of the generator, to provide circuit diagrams for the AMF panel, generator user guide and maintenance manuals for safe custody by the employer.

SECTION H

BILLS OF QUANTITIES

PART "A" – PRELIMINARY ITEMS

PART "B" – INSTALLATION ITEMS

SPECIAL NOTES TO BILLS OF QUANTITIES

1. The Bills of Quantities form part of the contract documents and are to be read in conjunction with the contract drawings and general specifications of materials and works.
2. The prices quoted shall be deemed to include for all obligations under the Contract including but not limited to supply of materials, labour, delivery to site, storage on site, installation, testing, commissioning and all taxes (**including 16% VAT and 3% withholding tax**).

In accordance with Government policy, the 16% VAT and 3% Withholding Tax **shall be deducted** from all payments made to the Tenderer, and the same shall be forwarded to the **Kenya Revenue Authority (KRA)**.

3. All prices omitted from any item, section or part of the Bills of Quantities shall be deemed to have been included to another item, section or part thereof.
4. The brief description of the items given in the Bills of Quantities are for the purpose of establishing a standard to which the Contractor shall adhere. Otherwise alternative brands of **equal and approved** quality will be accepted.

Should the Contractor install any material not specified here in before receiving **written approval** from the Project Manager, the Contractor shall remove the material in question and, **at his own cost**, install the proper material.

5. The grand total of prices in the price summary page must be carried forward to the **Form of Tender for the tender to be deemed valid**.
6. Tenderers must enclose, together with their submitted tenders, manufacturer's brochures detailing technical literature and specifications of the generator set that they intend to offer. Where the brochure contains different models and sizes of generators, the bidders **MUST** clearly mark out the model and size of generator they intend to offer by using a 'mark pen'.

The brochures are to be used to ascertain the suitability of the generating set being offered by the bidders, and bidders not complying with this requirement will be considered non-responsive and shall subsequently be disqualified from technical evaluation.

1. STATEMENT OF COMPLIANCE

- a) I confirm compliance of all clauses of the General Conditions, General Specifications and Particular Specifications in this tender.

- b) I confirm I have not made and will not make any payment to any person, which can be perceived as an inducement to win this tender.

Signed:*for and on behalf of the Tenderer*

Date:

Official Rubber Stamp:

BILLS OF QUANTITIES

A) PRICING OF PRELIMINARIES ITEMS.

Prices will be inserted against item of preliminaries in the sub-contractor's Bills of Quantities and specification. These Bills are designated as Bill 1 in this Section. Where the sub-contractor fails to insert his price in any item he shall be deemed to have made adequate provision for this on various items in the Bills of Quantities. The preliminaries form part of this contract and together with other Bills of Quantities covers for the costs involved in complying with all the requirements for the proper execution of the whole of the works in the contract.

The Bills of Quantities are divided generally into three sections:-

(a) **Preliminaries – Bill 1**

Sub-contractors preliminaries are as per those described in section C – sub-contractor preliminaries and conditions of contractor. The sub-contractor shall study the conditions and make provision to cover their cost in this Bill. The number of preliminary items to be priced by the Tenderer have been limited to tangible items such as site office, temporary works and others. However the Tenderer is free to include and price any other items he deems necessary taking into consideration conditions he is likely to encounter on site.

(b) **Installation Items – Other Bills**

- (i) The brief description of the items in these Bills of Quantities should in no way modify or supersede the detailed descriptions in the contract Drawings, conditions of contract and specifications.
- (ii) The unit of measurements and observations are as per those described in clause 3.0 5 of the section C.

(c) **Summary**

The summary contains tabulation of the separate parts of the Bills of Quantities carried forward with provisional sum, contingencies and any prime cost sums included. The sub-contractor shall insert his totals and enter his grand total tender sum in the space provided below the summary.

This grand total tender sum shall be entered in the Form of Tender provided elsewhere in this document

Bill No. 1

SUB-CONTRACT PRELIMINARIES

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT Kshs.
1	Discrepancies clause 1.02				
2	Conditions of sub-contract Agreement clause 1.03				
3	Payments clause 1.04				
4	Site location clause 1.06				
5	Scope of Contract Works clause 1.08				
6	Extent of the Contractor's Duties clause 1.09				
7	Firm price contract clause 1.12				
8	Variation clause 1.13				
9	Prime cost and provisional sum clause 3.14 (insert profit and attendance which is a percentage of expended PC or provisional sum.)				
10	Bond clause 1.15				
11	Government Legislation and Regulations clause 1.16				
12	Import Duty and Value Added Tax clause 1.17 (Note this clause applies for materials supplied only. VAT will also be paid by the sub-contractor as allowed in the summary page)				
13	Insurance company Fees clause 1.18				
14	Provision of services by the Main contractor clause 1.19				
15	Samples and Materials Generally clause 1.21				
	SUB-TOTAL CARRIED TO PAGE H-7				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT Kshs.
16	Supplies clause 1.20				
17	Bills of Quantities clause 1.23				
18	Contractor's Office in Kenya clause 1.24				
19	Builder's Work clause 1.25				
20	Setting to work and Regulating system clause 1.29				
21	Identification of plant components clause 1.30				
22	Working Drawings clause 1.32				
23	Record Drawings(As Installed) and Instructions clause 1.33;				
24	Maintenance Manual clause 1.34				
25	Hand over clause 1.35				
26	Painting clause 1.36				
27	Testing and Inspection – manufactured plant clause 1.38				
28	Testing and Inspection – Installation clause 1.39				
29	Storage of Materials clause 1.41				
30	Initial Maintenance clause 1.42				
	Attendance Upon Tradesmen, etc. (Insert percentage only) clause 1.58				
	SUB-TOTAL CARRIED TO PAGE H-7				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT Kshs.
31	Local and other Authorities notices and fees clause 1.60				
32	Temporary Works clause 1.63				
33	Patent Rights clause 1.64				
34	Mobilization and Demobilization Clause 1.65				
35	Extended Preliminaries Clause 1.66 (see Appendix -clause 1.70) (see Appendix -clause 1.70)				
36	Supervision by Engineer and Site Meetings ,Clause 1.67	1	Lot	150,000	150,000.00
37	Allow for profit and Attendance for the above				
38	Amendment to Scope of Sub-contract Works; Clause 1.68				
39	Contractor obligation and Employers; Obligation clause 1.69.				
40	Any other preliminaries;				
	Sub-total above (Page 7)				
	Sub-total brought forward from page H-5				
	Sub-total brought forward from page H-6				
TOTAL FOR Bill No. 1- PRELIMINARIES- CARRIED FORWARD TO PRICES SUMMARY PAGE					

BILL No 2. - STANDBY GENERATOR SET INSTALLATIONSSchedule 2.1 - 100KVA, 415V 3 ϕ , 50Hz PRIME POWER RATED STANDBY GENERATOR

ITEM	DESCRIPTION	QTY	UNIT	RATE (KSh)	AMOUNT (KSh)
	Supply and install and hand over in proper working condition the following				
	Enclose original manufacturers product literature and specifications.				
1	100 KVA, 3 Phase , 240/415 Volts, 50 Hz Prime Power Rating, incorporating control panel (Standby power rating sets will not be accepted) Diesel Powered, Acoustic (sound proof and weather proof Enclosed) Generator Set.	1	Sum		
2	ATS complete with 200A Automatic Change-over contactors and 200A Manual By-pass switches, circuit breakers, sensing relays etc	1	Sum		
3	200 Litres Bulk fuel storage tank on a suitable free standing support complete with manual fuel transfer pump, Fuel pump line, Fuel Gauge and fuel supply line to generator sets day tank as specified	1	Item		
4	5x 70.0mm ² XLPE Non Magnetic amoured copper single core cable complete with glands and all necessary accessories, surface laid with saddles, in a Perfoma Mesh Tray from the Genset to the ATS.	20	m		
5	5x 2.5mm ² XLPE Non Magnetic amoured copper single core Control cable complete with glands and all necessary accessories, surface laid with saddles, in a Perfoma Mesh Tray from the Genset to the ATS.	20	m		
6	70.0mm ² 4 core XLPE/SWA/PVC amoured copper cable complete with glands and all necessary accessories, in 100mm ϕ H/G PVC duct and in trench from the ATS to the Feeder Pillar/Service Turret.	20	m		
7	Outdoor Feeder Pillar panel c/w 250A busbars; to carry switchgear as in item below and all accessories				
(a)	200A TPN main MCCB c/w shunt trip coil.	1	No		
(b)	80A TP MCCB	1	No		
(c)	160A TP MCCB	1	No		
(d)	Spare space for 2 No. TPN MCCB's.	2	Lot		
8	50.0mm ² 4 core XLPE/SWA/PVC amoured copper cable complete with glands and all necessary accessories, in 75mm ϕ H/G PVC duct and in trench to the DB at Anatomy Lab.	50	m		
9	70.0mm ² 4 core XLPE/SWA/PVC amoured copper cable complete with glands and all necessary accessories, in 100mm ϕ H/G PVC duct and in trench to the LVSB at MPH.	150	m		
10	Trenching, laying, filling with concrete 'HATARI' cable tiles, sufficient cable markers and backfilling in soft ground.	200	m		
11	200mm ϕ H/G pitch fibre duct across civil works for Electrical power service line cable.	20	m		
12	600mmx600mmx450mm RC manhole c/w HD cover for power service power cable	2	No		
13	Exhaust piping complete with flexible connections, bends insulation lagging as specified	10	m		
14	Allow for any other item under THE GENERATOR SET INSTALLATION that is necessary to complete this Generator Installation satisfactorily and as specified.	1	Sum		
SUB-TOTAL FOR Schedule 2.1 - GENERATOR INSTALLATION CARRIED FORWARD TO THE PRICES SUMMARY PAGE					

Schedule 2.2 -ANCILLARYS TO THE GENERATOR SET INSTALLATION

ITEM	DESCRIPTION	QTY	UNIT	RATE (KSh)	AMOUNT (KSh)
	Supply of spare parts and Lubricnt Comprising of the Following				
i)	Oil Filters	1	No		
ii)	Air Filters	1	No		
iii)	Set of Fan Belts to suit the Generator Set	1	Sum		
iv)	One set of indicator Bulbs to suit the panels.	1	Sum		
v)	Indicator Lenses to suit the panels	1	Sum		
vi)	Set of Manufacturer Recommended Spare kit	1	Sum		
vii)	Set of Fuses	1	Sum		
viii)	Manufacturer Recommended Generator sump Oil	10	Litres		
ix)	Manufacturer Recommended Grease	2	Kg		
x)	Battery Distilled Water	5	Litres		
2	Supply of Recommended Tools Comprising of the following				
i)	Metal Tool Box with Lock and 2 Keys	1	Sum		
ii)	Set of chrome Vanadium Ring Spanners in sizes to suit the Generator Set.	1	Sum		
iii)	Set the chrome Vanadium open Spanners in sizes to suit the Generator set	1	Sum		
iv)	Set of 75mm,200mm and 300mm screwdrivers	1	Sum		
v)	1 set of Feeler Gauges	1	Sum		
vi)	Grease Gun to suit Generators Greasing points	1	No		
vii)	One Trigger Type Oil can	1	No		
viii)	Battery Hydrometer with plastic Filter Bottle and pouring Spout	1	Sum		
3	3No. 1500mm long x 15mm Ø steel cored Cooper Earth Rods installed in delta earthing method and threaded for extension,connected by brass clamps to 10 meter of 25mm wide x 3mm thick copper earth tape laid in suitable duct from the Generator location Enclosure and connected to the Generator earth point.	2	Item		
4	Allow for Hot Air Canvas Ducting to suit Site Conditions	5	m		
5	Allow for Full Load Testing and Commisioning as Specified	1	Sum		
6	Allow for 3 No set of Documentattion, Operations, Parts and Maintainance Manuals	1	Sum		
7	Allow for any other ITEMS under the ANCILLIARYS TO GENERATOR INSTALLATION that is necessary to complete this standby Generator installation Satisfactorily (provide Details Below)	1	Sum		
i)					
ii)					
SUB-TOTAL FOR Schedule 2.2 ANCILLARYS TO GENERATOR SET INSTALLATION CARRIED FORWARD TO PRICES SUMMARY PAGE					

PRICES SUMMARY PAGE

ITEM	DESCRIPTION	AMOUNT (Ksh)
1	TOTAL FOR BILL No. 1 PRELIMINARIES AND GENERAL CONDITIONS OF SUB - CONTRACT BROUGHT FORWARD TO MAIN SUMMARY PAGE	
2	TOTAL FOR Schedule 2.1 -100KVA, 415V,3 ϕ , 50Hz PRIME RATED GENERATOR SET INSTALLATION BROUGHT FORWARD TO MAIN SUMMARY PAGE	
3	TOTAL FOR Schedule 2.2 - ANCILLARYS TO THE GENERATOR SET INSTALLATIONS BROUGHT FORWARD TO MAIN SUMMARY PAGE	
4	ALLOW A CONTINGENCY SUM OF KSHS. 300,000.00 TO BE EXPENDED AT THE DISCRETION OF THE ENGINEER.	300,000.00
	TOTAL CARRIED TO FORM OF TENDER INCLUSIVE OF DUTIES AND TAXES	

Total Amount in Words.....

.....

Name of Tenderer.....

Address.....

Signature.....

Official Stamp.....

Date.....

SECTION I

SCHEDULE OF UNIT RATES

1. The tenderer shall insert unit rates against the items in the following schedules and may add such other items as he considers appropriate.
2. The unit rates shall include for supply, transport, insurance, delivery to site, storage as necessary, assembling, cleaning, installing, connecting, profit and maintenance in defects liability and any other obligation under this contract.
3. The unit rates will be used to assess the value of additions or omissions arising from authorised variations to the contract works.
4. Where trade names or manufacturer's catalogue numbers are mentioned in the specification, the reference is intended as a guide to the type of article or quality of material required. Alternative brands of **equal** and **approved** quality will be accepted.

SCHEDULE OF UNIT RATES
(To be completed by the Tenderer) - MANDATORY

ITEM	DESCRIPTION	UNIT	RATE (Ksh)
1	XLPE/SWA/PVC armoured Copper cables per metre		
	(a) 2.5.0mm ² , 3 core	m	
	(b) 4.0mm ² , 3 core	m	
	(c) 25.0mm ² , 4 core	m	
	(d) 35.0mm ² , 4 core	m	
	(e) 95.0mm ² , 4 core	m	
	(f) 120.0mm ² , 4 core	m	
2	100A 4- pole bus bar chamber complete with bus bars and all accessories included	Lot	
3	200A 4- pole bus bar chamber complete with bus bars and all accessories included	Lot	
4	Semi rotary pump of 25mmØ discharge appropriately installed complete with all accessories.	Lot	
5	13A Twin switched socket outlet as CRABTREE c/w all accessories.	Lot	
6	5A SP MCB as CRABTREE	No	
7	30A SP MCB as CRABTREE	No	
8	4 way SP Consumer unit c/w 100A integral isolator as CRABTREE	No	
9	4 way TPN Distribution Board c/w 125ATP integral isolator as CRABTREE	No	

SECTION J

STANDARD FORMS

CONTENTS OF SECTION J

TITLE	PAGE
1. Performance Bank Guarantee.....	J/2
2. Tender Questionnaire.....	J/3
3. Confidential Business Questionnaire.....	J/4 -J/5
4. Key Personnel.....	J6
5. Schedule of Contracts completed in the last five (5) years.....	J7
6. Schedule of on-going projects.....	J8
7. Financial Reports for the last 5 years.....	J9
8. Evidence of Financial Resources to Meet Qualification Requirements.....	J10
9. Name and Address of Bankers.....	J/11
10. Details of Litigation or Arbitration Proceedings.....	J/12
11. Proposed Works Programme.....	J/13
12. Form of Agreement.....	J/14-J/15

NOTE:

Tenderers must duly fill these Standard Forms as a mandatory requirement as they will form part the evaluation criteria!

PERFORMANCE BANK GUARANTEE

To: The Vice Chancellor,
Masinde Muliro University of Science & Technology;
P.O. Box 190-50100,
KAKAMEGA.

Dear Sir,

WHEREAS (hereinafter called “the Contractor”) has undertaken, in pursuance of Contract No.
Dated to execute ***..Supply, Installation, Testing & Commissioning of 100KVA, 415V, 50Hz Prime Rated Standby Generator at Anatomy Lab in MMUST..***(hereinafter called “the Works”);
AND WHEREAS it has been stipulated by you in the said Contract that the Contractor shall furnish you with a Bank Guarantee by a recognised bank for the sum specified therein as security for compliance with his obligations in accordance with the Contract;

AND WHEREAS we have agreed to give the Contractor such a Bank Guarantee:

NOW THEREFORE we hereby affirm that we are the Guarantor and responsible to you, on behalf of the Contractor, up to a total of:

Kshs (*amount of Guarantee in figures*)

Kenya Shillings

.....(*amount of Guarantee in words*),

and we undertake to pay you, upon your first written demand and without cavil or argument, any sum or sums within the limits of Kenya Shillings

.....
(*amount of Guarantee in words*) as aforesaid without your needing to prove or to show grounds or reasons for your demand for the sum specified therein.

We hereby waive the necessity of your demanding the said debt from the Contractor before presenting us with the demand.

We further agree that no change, addition or other modification of the terms of the Contract or of the Works to be performed thereunder or of any of the Contract documents which may be made between you and the Contractor shall in any way release us from any liability under this Guarantee, and we hereby waive notice of any change, addition, or modification.

This guarantee shall be valid until the date of issue of the Certificate of Completion.

SIGNATURE AND SEAL OF THE GUARANTOR

Name of Bank

Address

Date.....

TENDER QUESTIONNAIRE

Please fill in block letters.

1. Full names of Tenderer:

.....

2. Full address of Tenderer to which tender correspondence is to be sent (unless an agent has been appointed below):

.....

3. Telephone number (s) of Tenderer:

.....

4. Telex/Fax Address of Tenderer:

.....

5. Name of Tenderer's representative to be contacted on matters of the tender during the tender period:

.....

6. Details of Tenderer's nominated agent (if any) to receive tender notices. This is essential if the Tenderer does not have his registered address in Kenya (name, address, telephone, telex):

.....

.....

Signature of Tenderer

Make copy and deliver to:

The Vice Chancellor,
Masinde Muliro University of Science & Technology,
P.O. Box 190-50100,
KAKAMEGA.

CONFIDENTIAL BUSINESS QUESTIONNAIRE

You are requested to give the particulars indicated in Part 1 and either Part 2 (a), 2 (b) or 2(c) and (2d) whichever applies to your type of business.

You are advised that it is a serious offence to give false information on this Form.

Part 1 – General

Business Name

Location of business premises: Country/Town.....

Plot No..... Street/Road

Postal Address..... Tel No.....

Nature of Business.....

Current Trade Licence No..... Expiring date.....

Maximum value of business which you can handle at any time:

Kenya Shillings.....

Name of your bankers.....

Branch.....

Part 2 (a) – Sole Proprietor

Your name in full..... Age.....

Nationality..... Country of Origin.....

Citizenship details

Part 2 (b) – Partnership

Give details of partners as follows:

	<i>Name in full</i>	<i>Nationality</i>	<i>Citizenship Details</i>	<i>Shares</i>
1.
2.
3.
4.

Part 2(c) – Registered Company

Private or Public

State the nominal and issued capita of the company:

Nominal KShs.....

Issued KShs

Give details of all directors as follows:

	<i>Name in full</i>	<i>Nationality</i>	<i>Citizenship Details*</i>	<i>Shares</i>
1.
2.
3.
4.

Part 2(d) Interest in the Firm:

Is there any person/persons in the employment of the Government of Kenya WHO has interest in this firm? Yes/No (Delete as necessary)

I certify that the above information is correct.

.....
Title Signature Date

* Attach proof of citizenship

KEY PERSONNEL

Qualifications and experience of key personnel proposed for administration and execution of the Contract.

No	POSITION	NAME	YEARS OF EXPERIENCE (GENERAL)	YEARS OF EXPERIENCE IN PROPOSED POSITION
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

I certify that the above information is correct.

.....
Title

.....
Signature

.....
Date

CONTRACTS COMPLETED IN THE LAST FIVE (5) YEARS

Work performed on works of a similar nature, complexity and volume over the last 5 years.
(List and Attach copies of Completion certificates as proof)

No	PROJECT NAME	NAME OF CLIENT	TYPE OF WORK AND YEAR OF COMPLETION	VALUE OF CONTRACT (Kshs.)

I certify that the above works were successfully carried out and completed by ourselves.

.....
Title

.....
Signature

.....
Date

SCHEDULE OF ON-GOING PROJECTS

Details of on-going or committed projects, including expected completion date.

(List and Attach copies of letters of award as proof)

No	PROJECT NAME	NAME OF CLIENT	CONTRACT SUM	% COMPLETE	COMPLETION DATE

I certify that the above works are currently being carried out by ourselves.

.....
Title

.....
Signature

.....
Date

AUDITED FINANCIAL REPORTS FOR THE LAST THREE YEARS.

(Balance sheets, Profit and Loss statements, Auditor's reports, e.t.c.).

List below and attach copies

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

EVIDENCE OF FINANCIAL RESOURCES TO MEET QUALIFICATION REQUIREMENTS

(Cash in hand, Lines of credit, e.t.c.

List below and attach copies of supportive documents)

1 _____

2 _____

3 _____

4 _____

5 _____

6 _____

NAME, ADDRESS AND TELEPHONE, TELEX AND FACSIMILE OF BANKS
(This should be for banks that may provide reference if contacted by the employer)

NAME	ADDRESS	TELEPHONE	TELEX	FACSIMILE

DETAILS OF LITIGATION OR ARBITRATION PROCEEDINGS IN WHICH THE TENDERER HAS BEEN INVOLVED AS ONE OF THE PARTIES IN THE LAST 5 YEARS

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

PROPOSED WORKS PROGRAMME

(Bidders to Propose Works Programme in form of a Bar Chart covering the whole of the Contract Period)

FORM OF AGREEMENT

THIS AGREEMENT, Made the_day of 20.....
Between.....of (or
whose registered office is situated at)
(herein after called “the Employer”) of the one part AND
.....of (or whose
registered office is situated at (herein after called “the
Contractor”) of the other part.

WHEREAS THE Employer is desirous that the Contractor executes

(Name and identification number of contract) (herein after called “the Works”) located at
(place/location of the Works) and the Employer has appointed

of (or whose registered office is situated at)KAKAMEGA as the **PROJECT MANAGER**
for the purposes thereof and has accepted the tender submitted by the Contractor for the
execution and completion of the said works and the remedying of any defects therein in the
sum of Kshs..... (amount in figures) Kenya Shillings
.....
..... (amount in words) (herein after called “the
Contract price”).

NOW THAT WITNESSETH AS FOLLOWS:

1. In this Agreement, words and expressions shall have the same meanings as respectively assigned to them in the conditions of Contract herein after referred to.
2. The following documents shall be deemed to form and shall be read and construed as part of this Agreement i.e.
 - (i) Letter of acceptance
 - (ii) Form of Tender
 - (iii) Conditions of Contract
 - (iv) Specifications
 - (v) Priced Bills of Quantities
 - (vi) Drawings
 - (vii) Appendix to conditions of contract

3. In consideration of the payments to be made by the Employer to the Contractor as herein mentioned, the contractor hereby covenants with the Employer to execute and complete the Works and any defects therein in conformity in all respects with the provision of the contract.
4. The Employer hereby covenants to pay the contractor in consideration of the execution and completion of the Works 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 thereto have caused this Agreement to be executed the day and year first written.

The common Seal of

Was hereunto affixed in the presence of

Signed, Sealed and Delivered by the said

Binding Signature of Employer

Date

Witnessed by: Name

Address

Signature

Date

Binding Signature of Contractor

Date

Witnessed by: Name

Address

Signature

Date