

SharePoint

Mthembu Nolwazi1 ?

KZN Health > Components > Supply Chain Management

AdvertQuote



KWAZULU-NATAL PROVINCE
HEALTH
REPUBLIC OF SOUTH AFRICA

Quotation Advert

Opening Date: 2021-08-06

Closing Date: 2021-08-17

Closing Time: 11:00

INSTITUTION DETAILS

Institution Name: Head Office Quotations

Province: KwaZulu-Natal

Department or Entity: Department of Health

Division or section: Central Supply Chain Management

Place where goods / services is required: Infrastructure Development

Date Submitted: 2021-08-06

ITEM CATEGORY AND DETAILS

Quotation Number: ZNQ: HOH/0497/22

Item Category: Goods

Item Description: To supply and install A20k canopy type outdoor generator

Quantity (if supplies): 1

COMPULSORY BRIEFING SESSION / SITE VISIT

Select Type: Compulsory Briefing Session

Date: 2021-08-12

Time: 12H30

Venue: UMzimbhulu MLM

QUOTES CAN BE COLLECTED FROM: www.kznhealth.gov.za

QUOTES SHOULD BE DELIVERED TO: Quotations.scmho@kznhealth.gov.za or Hand deliver at 310 Jabu Ndlovu street, Old Boys Model, Quotation Box

ENQUIRIES REGARDING THE ADVERT MAY BE DIRECTED TO:

Name: Nolwazi Mthembu

Email: nolwazi.mthembu1@kznhealth.gov.za

Contact Number: 033-8158411

Finance Manager Name: T. Asbhy

Finance Manager Signature:

No late quotes will be considered

ARE YOU THE ACCREDITED REPRESENTATIVE IN SOUTH AFRICA FOR THE GOODS / SERVICES / WORKS OFFERED? [IF YES ENCLOSE PROOF]

OFFICIAL PRICE PAGE FOR QUOTATIONS

SIGNATURE OF BIDDER DATE.....
 [By signing this document I hereby agree to all terms and conditions]

CAPACITY UNDER WHICH THIS QUOTE IS SIGNED.....

Item No	Quantity	Description	Brand & model	Country of manufacture	Price	
					R	c
1	01	To supply and install A20kVA Canopy type outdoor generator at Harry Gwala District (UMzimkhulu MLM) CIDB grade 2EB/EP or above NB: Specification attached Compulsory Briefing Session Venue: UMzimkhulu MLM Date: 12/08/2021 @ 12H30 Original documents required in a sealed envelope with current CSD summary report reflecting banking details, certified copy of B-BBEE certificate by verified agency and accredited by SANAS , Tax Clearance certificate or SARS pin Responses to be delivered: 310 Jabu Ndlovu street, old boys Model, Quotation tender box Or Quotations.scmho@kznhealth.gov.za				
VALUE ADDED TAX (Only if VAT Vendor)						
TOTAL QUOTATION PRICE (VALIDITY PERIOD 60 Days)						

Does This Offer Comply With The Specification?	Does The Article Conform To The S.A.N.S. / S.A.B.S. Specification?
Is The Price Firm?	State Delivery Period E.G. E.G. 1day, 1week

Enquiries regarding the <u>quote</u> may be directed to: Contact Person: <u>Nolwazi Mthembu</u> Tel: <u>033-815 8411</u>	Enquiries regarding <u>technical information</u> may be directed to: Contact Person: <u>Mxolisi Myeza</u> Tel: <u>033-940 2518</u>
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DECLARATION OF INTEREST

1. Any legal person, including persons employed by the state¹, or persons having a kinship with persons employed by the state, including a blood relationship, may make an offer or offers in terms of this invitation to quote (includes a price quotation, advertised competitive quote, limited quote or proposal). In view of possible allegations of favouritism, should the resulting quote, or part thereof, be awarded to persons employed by the state, or to persons connected with or related to them, it is required that the bidder or his/her authorised representative declare his/her position in relation to the evaluating/adjudicating authority where-
 - the bidder is employed by the state; and/or
 - the legal person on whose behalf the bidding document is signed, has a relationship with persons/a person who are/is involved in the evaluation and or adjudication of the quote(s), or where it is known that such a relationship exists between the person or persons for or on whose behalf the declarant acts and persons who are involved with the evaluation and or adjudication of the quote.

2. In order to give effect to the above, the following questionnaire must be completed and submitted with the quote.

- | | |
|--|---|
| 2.1. Full Name of bidder/representative..... | 2.4. Company Registration Number: |
| 2.2. Identity Number: | 2.5. Tax Reference Number: |
| 2.3. Position occupied in the Company (director, trustee, shareholder ²):..... | 2.6. VAT Registration Number: |

2.7. The names of all directors / trustees / shareholders / members, their individual identity numbers, tax reference numbers and, if applicable, employee / persal numbers must be indicated in paragraph 3 below. [TICK APPLICABLE]

2.8. Are you or any person connected with the bidder presently employed by the state? YES NO

2.8.1. If so, furnish the following particulars:
 Name of person / director / trustee / shareholder/ member:
 Name of state institution at which you or the person connected to the bidder is employed:.....
 Position occupied in the state institution: Any other particulars:.....

2.8.2. If you are presently employed by the state, did you obtain the appropriate authority to undertake remunerative work outside employment in the public sector? YES NO

2.8.2.1. If yes, did you attach proof of such authority to the quote document?

(Note: Failure to submit proof of such authority, where applicable, may result in the disqualification of the quote.)

2.8.2.2. If no, furnish reasons for non-submission of such proof:

2.9. Did you or your spouse, or any of the company's directors / trustees / shareholders / members or their spouses conduct business with the state in the previous twelve months? YES NO

2.9.1. If so, furnish particulars:.....

2.10. Do you, or any person connected with the bidder, have any relationship (family, friend, other) with a person employed by the state and who may be involved with the evaluation and or adjudication of this quote? YES NO

2.10.1. If so, furnish particulars:.....

2.11. Are you, or any person connected with the bidder, aware of any relationship (family, friend, other) between any other bidder and any person employed by the state who may be involved with the evaluation and or adjudication of this quote? YES NO

2.11.1. If so, furnish particulars:.....

2.12. Do you or any of the directors / trustees / shareholders / members of the company have any interest in any other related companies whether or not they are bidding for this contract? YES NO

2.12.1. If so, furnish particulars:.....

3. Full details of directors / trustees / members / shareholders.

NB: The Department Of Health will validate details of directors / trustees / members / shareholders on CSD. It is the suppliers' responsibility to ensure that their details are up-to-date and verified on CSD. If the Department cannot validate the information on CSD, the quote will not be considered and passed over as non-compliant according to National Treasury Instruction Note 4 (a) 2016/17.

4 DECLARATION

I, THE UNDERSIGNED (NAME).....CERTIFY THAT THE INFORMATION FURNISHED IN PARAGRAPHS 2.

I ACCEPT THAT THE STATE MAY REJECT THE QUOTE OR ACT AGAINST ME SHOULD THIS DECLARATION PROVE TO BE FALSE.

.....
Name of bidder	Signature	Position	Date

¹"State" means -

- | | |
|---|---|
| a) any national or provincial department, national or provincial public entity or constitutional institution within the meaning of the Public Finance Management Act, 1999 (Act No. 1 of 1999); | c) provincial legislature; |
| b) any municipality or municipal entity; | d) national Assembly or the national Council of provinces; or |
| | e) Parliament. |

²"Shareholder" means a person who owns shares in the company and is actively involved in the management of the enterprise or business and exercises control over the enterprise.

SPECIAL CONTRACT CONDITIONS OF QUOTATIONS

1. AMENDMENT OF CONTRACT

1.1. Any amendment to or renunciation of the provisions of the contract shall at all times be done in writing and shall be signed by both parties.

2. CHANGE OF ADDRESS

2.1. Bidders must advise the Department of Health (institution where the offer was submitted) should their address (*domicilium citandi et executandi*) details change from the time of bidding to the expiry of the contract.

3. GENERAL CONDITIONS ATTACHED TO THIS QUOTATION

- 3.1. The institution is under no obligation to accept the lowest or any quote.
- 3.2. The price quoted must include VAT (if VAT vendor). However, it must be noted that the department reserves the right to evaluate all quotations excluding VAT as some bidders may not be VAT vendors.
- 3.3. The bidder must ensure the correctness & validity of quote:
 - (i) *that the price(s), rate(s) & preference quoted cover all for the work/item (s) & accept that any mistakes regarding the price (s) & calculations will be at the bidder's risk*
- 3.4. The bidder must accept full responsibility for the proper execution & fulfilment of all obligations conditions devolving on under this agreement, as the Principal (s) liable for the due fulfilment of this contract.
- 3.5. This quotation will be evaluated based on the 80/20 points system, specification & correctness of information. All required documentation must be completed in full and submitted.
- 3.6. Offers must comply strictly with the specification.
- 3.7. Only offers that meet or are greater than the specification will be considered.
- 3.8. Late quotes will not be considered.
- 3.9. Expired product/s will not be accepted. All products supplied must be valid for a minimum period of six months.
- 3.10. A bidder not registered on the Central Suppliers Database or verification has failed will not be considered.
- 3.11. All delivery costs must be included in the quote price, for delivery at the prescribed destination.
- 3.12. Only firm prices will be accepted. Such prices must remain firm for the contract period. Non-firm prices (including rates of exchange variations) will not be considered.
- 3.13. In cases where different delivery points influence the pricing, a separate pricing schedule must be submitted for each delivery point.
- 3.14. In the event of a bidder having multiple quotes, only the cheapest according to specification will be considered. Furthermore a verification will be done to identify if bidders have multiple companies and are quoting (cover-quoting) for this bid. In such instances only the cheapest bid according to specification will be considered.

4. SAMPLES

- 4.1. In the case of the quote document stipulating that samples are required, the supplier will be informed in due course when samples should be provided to the institution. (This decreases the time of safety and storage risk that may be incurred by the respective institution). The bidders sample will be retained if such bidder wins the contract.
 - (i) If a company/s who has not won the quote requires their samples, they must advise the institution in writing of such.
 - (ii) If samples are not collected within three months of close of quote the institution reserves the right to dispose of them at their discretion.
- 4.2. **Samples must be made available when requested in writing or if stipulated on the document.**
 - (i) If a Bidder fails to provide a sample of their product on offer for scrutiny against the set specification when requested, their offer will be rejected. All testing will be for the account of the bidder.

5. COMPULSORY SITE INSPECTION / BRIEFING SESSION

- 5.1. Bidders who fail to attend the compulsory meeting will be disqualified from the evaluation process.
 - (i) The institution has determined that a compulsory site meeting will take place
 - (ii) Date 12 / 08 / 2021 Time 12 : 30 Place UMzimkhulu MLM

Institution Stamp:	Institution Site Inspection / briefing session Official Full Name: Signature: Date:
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6. STATEMENT OF SUPPLIES AND SERVICES

- 6.1. The contractor shall, when requested to do so, furnish particulars of supplies delivered or services executed. If he/she fails to do so, the Department may, without prejudice to any other rights which it may have, institute inquiries at the expense of the contractor to obtain the required particulars.

7. SUBMISSION AND COMPLETION OF SBD 6.1

- 7.1. Should a bidder wish to qualify for preference points they must complete a SBD 6.1 document. Failure by a bidder to provide all relevant information required, will result in such a bidder not being considered for preference point's allocation. The preferences applicable on the closing date will be utilized. Any changes after the closing date will not be considered for that particular quote.

8. TAX COMPLIANCE REQUIREMENTS

- 8.1. In the event that the tax compliance status has failed on CSD, *it is the suppliers' responsibility to provide a SARS pin in order for the institution to validate the tax compliance status of the supplier.*
- 8.2. In the event that the institution cannot validate the suppliers' tax clearance on SARS as well as the Central Suppliers Database, *the quote will not be considered and passed over as non-compliant according to National Treasury Instruction Note 4 (a) 2016/17.*

9. TAX INVOICE

- 9.1. A tax invoice shall be in the currency of the Republic of South Africa and shall contain the following particulars:

- (i) the name, address and registration number of the supplier;
- (ii) the name and address of the recipient;
- (iii) an individual serialized number and the date upon which the tax invoice is issued;
- (iv) a description and quantity or volume of the goods or services supplied;
- (v) the official department order number issued to the supplier;
- (vi) the value of the supply, the amount of tax charged;
- (vii) the words tax invoice in a prominent place.

10. PATENT RIGHTS

- 10.1. The supplier shall indemnify the **KZN Department of Health** (hereafter known as the purchaser) against all third-party claims of infringement of patent, trademark, or industrial design rights arising from use of the goods or any part thereof by the purchaser.

11. PENALTIES

- 11.1. If the supplier fails to deliver any or all of the goods or to perform the services within the period(s) specified in the contract, the purchaser shall, without prejudice to its other remedies under the contract, deduct from the contract price, as a penalty, a sum calculated on the delivered price of the delayed goods or unperformed services using the current prime interest rate calculated for each day of the delay until actual delivery or performance. The purchaser may also consider termination of the contract.

12. TERMINATION FOR DEFAULT

- 12.1. The purchaser, without prejudice to any other remedy for breach of contract, by written notice of default sent to the supplier, may terminate this contract in whole or in part:
- (i) if the supplier fails to deliver any or all of the goods within the period(s) specified in the contract,
 - (ii) if the supplier fails to perform any other obligation(s) under the contract; or
 - (iii) if the supplier, in the judgment of the purchaser, has engaged in corrupt or fraudulent practices in competing for or in executing the contract.
- 12.2. In the event the purchaser terminates the contract in whole or in part, the purchaser may procure, upon such terms and in such manner as it deems appropriate, goods, works or services similar to those undelivered, and the supplier shall be liable to the purchaser for any excess costs for such similar goods, works or services.
- 12.3. Where the purchaser terminates the contract in whole or in part, the purchaser may decide to impose a restriction penalty on the supplier by prohibiting such supplier from doing business with the public sector for a period not exceeding 10 years.

FAILURE TO COMPLY WITH ABOVE WILL RESULT IN YOUR QUOTE BEING PASSED OVER.

PREFERENCE POINTS CLAIM FORM IN TERMS OF THE PREFERENTIAL PROCUREMENT REGULATIONS 2017

This preference form must form part of all quotes invited. It contains general information and serves as a claim form for preference points for Broad-Based Black Economic Empowerment (B-BBEE) Status Level of Contribution

NB: BEFORE COMPLETING THIS FORM, BIDDERS MUST STUDY THE GENERAL CONDITIONS, DEFINITIONS AND DIRECTIVES APPLICABLE IN RESPECT OF B-BBEE, AS PRESCRIBED IN THE PREFERENTIAL PROCUREMENT REGULATIONS, 2017.

1. GENERAL CONDITIONS

1.1 The following preference point systems are applicable to all quotes:

- the 80/20 system for requirements with a Rand value of up to R50 000 000 (all applicable taxes included); and

1.2 The value of this quote is estimated to not exceed R50 000 000 (all applicable taxes included) and therefore the 80/20 preference point system shall be applicable.

1.3 Points for this quote shall be awarded for:

- (a) Price; and
- (b) B-BBEE Status Level of Contributor.

1.4 The maximum points for this quote is allocated as follows:

	POINTS
PRICE	80
B-BBEE STATUS LEVEL OF CONTRIBUTOR	20
Total points for Price and B-BBEE must not exceed	100

1.5 Failure on the part of a bidder to submit proof of B-BBEE Status level of contributor together with the quote, will be interpreted to mean that preference points for B-BBEE status level of contribution are not claimed.

1.6 The purchaser reserves the right to require of a bidder, either before a quote is adjudicated or at any time subsequently, to substantiate any claim in regard to preferences, in any manner required by the purchaser.

2. DEFINITIONS

- (a) **"B-BBEE"** means broad-based black economic empowerment as defined in section 1 of the Broad-Based Black Economic Empowerment Act;
- (b) **"B-BBEE status level of contributor"** means the B-BBEE status of an entity in terms of a code of good practice on black economic empowerment, issued in terms of section 9(1) of the Broad-Based Black Economic Empowerment Act;
- (c) **"bid"** means a written offer in a prescribed or stipulated form in response to an invitation by an organ of state for the provision of goods or services, through price quotations, advertised competitive bidding processes or proposals;
- (d) **"Broad-Based Black Economic Empowerment Act"** means the Broad-Based Black Economic Empowerment Act, 2003 (Act No. 53 of 2003);
- (e) **"EME"** means an Exempted Micro Enterprise in terms of a code of good practice on black economic empowerment issued in terms of section 9 (1) of the Broad-Based Black Economic Empowerment Act;
- (f) **"functionality"** means the ability of a tenderer to provide goods or services in accordance with specifications as set out in the tender documents.
- (g) **"prices"** includes all applicable taxes less all unconditional discounts;
- (h) **"proof of B-BBEE status level of contributor"** means:
 - 1) B-BBEE Status level certificate issued by an authorized body or person;
 - 2) A sworn affidavit as prescribed by the B-BBEE Codes of Good Practice;
 - 3) Any other requirement prescribed in terms of the B-BBEE Act;
- (i) **"QSE"** means a qualifying small business enterprise in terms of a code of good practice on black economic empowerment issued in terms of section 9 (1) of the Broad-Based Black Economic Empowerment Act;
- (j) **"rand value"** means the total estimated value of a contract in Rand, calculated at the time of bid invitation, and includes all applicable taxes;

3. POINTS AWARDED FOR PRICE

3.1 THE 80/20 PREFERENCE POINT SYSTEMS

A maximum of 80 points is allocated for price on the following basis:

$$P_s = 80 \left(1 - \frac{P_t - P_{\min}}{P_{\min}} \right) \text{ Where}$$

- P_s = Points scored for price of bid under consideration
- P_t = Price of bid under consideration
- P_{min} = Price of lowest acceptable bid

4. POINTS AWARDED FOR B-BBEE STATUS LEVEL OF CONTRIBUTOR

4.1 In terms of Regulation 6 (2) and 7 (2) of the Preferential Procurement Regulations, preference points must be awarded to a bidder for attaining the B-BBEE status level of contribution in accordance with the table below:

B-BBEE Status Level of Contributor	Number of points (80/20 system)
1	20
2	18
3	14
4	12
5	8
6	6
7	4
8	2
Non-compliant contributor	0

5. BID DECLARATION

5.1 Bidders who claim points in respect of B-BBEE Status Level of Contribution must complete the following:

6. B-BBEE STATUS LEVEL OF CONTRIBUTOR CLAIMED IN TERMS OF PARAGRAPHS 1.4 AND 4.1

6.1 B-BBEE Status Level of Contributor: =(maximum of 20 points)

(Points claimed in respect of paragraph 7.1 must be in accordance with the table reflected in paragraph 4.1 and must be substantiated by relevant proof of B-BBEE status level of contributor.

7. SUB-CONTRACTING

(Tick applicable box)

7.1 Will any portion of the contract be sub-contracted?

YES		NO	
-----	--	----	--

7.1.1 If yes, indicate:

- i) What percentage of the contract will be subcontracted.....%
- ii) The name of the sub-contractor.....
- iii) The B-BBEE status level of the sub-contractor.....

8. Whether the sub-contractor is an EME or QSE

(Tick applicable box)

iv) Specify, by ticking the appropriate box, if subcontracting with an enterprise in terms of Preferential Procurement Regulations,2017:

YES		NO	
-----	--	----	--

Designated Group: An EME or QSE which is at least 51% owned by:	EME	QSE
Black people	√	√
Black people who are youth		
Black people who are women		
Black people with disabilities		
Black people living in rural or underdeveloped areas or townships		
Cooperative owned by black people		
Black people who are military veterans		
OR		
Any EME		
Any QSE		

9. **DECLARATION WITH REGARD TO COMPANY/FIRM**

9.1 Name of company/firm:.....

9.2 VAT registration number:.....

9.3 Company registration number:.....

9.4 **TYPE OF COMPANY/ FIRM [TICK APPLICABLE BOX]**

- Partnership/Joint Venture / Consortium
- One person business/sole propriety
- Close corporation
- Company
- (Pty) Limited

9.5 **DESCRIBE PRINCIPAL BUSINESS ACTIVITIES**

.....
.....

9.6 **COMPANY CLASSIFICATION [TICK APPLICABLE BOX]**

- Manufacturer
- Supplier
- Professional service provider
- Other service providers, e.g. transporter, etc.

9.7 Total number of years the company/firm has been in business:.....

9.8 I/we, the undersigned, who is / are duly authorised to do so on behalf of the company/firm, certify that the points claimed, based on the B-BBE status level of contributor indicated in paragraphs 1.4 and 6.1 of the foregoing certificate, qualifies the company/ firm for the preference(s) shown and I / we acknowledge that:

- i) The information furnished is true and correct;
- ii) The preference points claimed are in accordance with the General Conditions as indicated in paragraph 1 of this form;
- iii) In the event of a contract being awarded as a result of points claimed as shown in paragraphs 1.4 and 6.1, the contractor may be required to furnish documentary proof to the satisfaction of the purchaser that the claims are correct;
- iv) If the B-BBEE status level of contributor has been claimed or obtained on a fraudulent basis or any of the conditions of contract have not been fulfilled, the purchaser may, in addition to any other remedy it may have –
 - (a) disqualify the person from the bidding process;
 - (b) recover costs, losses or damages it has incurred or suffered as a result of that person's conduct;
 - (c) cancel the contract and claim any damages which it has suffered as a result of having to make less favourable arrangements due to such cancellation;
 - (d) recommend that the bidder or contractor, its shareholders and directors, or only the shareholders and directors who acted on a fraudulent basis, be restricted by the National Treasury from obtaining business from any organ of state for a period not exceeding 10 years, after the *audi alteram partem* (hear the other side) rule has been applied; and
 - (e) forward the matter for criminal prosecution.

<p>WITNESSES</p> <p>1.</p> <p>2.</p>
--

<p>.....</p> <p>SIGNATURE(S) OF BIDDERS(S)</p> <p>DATE:</p> <p>ADDRESS.....</p> <p>.....</p> <p>.....</p>

DIRECTORATE:

Private Bag X9051, Pietermaritzburg, 3200
35 Hyslop Road, Townhill Office Park, Pietermaritzburg, 3201
Tel: 033 940 2518

Infrastructure Development

DEPARTMENT OF HEALTH

PROVINCE OF KWAZULU-NATAL

FACILITY NAME: UMZIMKHULU MEDICO LEGAL MORTUARY

**PROJECT DESCRIPTION: SUPPLY AND INSTALL A 20kVA CANOPY TYPE OUTDOOR
GENERATOR WITH ALL ASSOCIATED ANCILLARIES**

REQUIRED CIDB GRADING: 2 EB/EP or above

QUOTATION DOCUMENT

DEPARTMENT OF HEALTH

Project Leader: Mxolisi Myeza
Telephone No: 033 940 2518
Cellphone: 083 408 4933
Email: mxolisi.myeza@kznhealth.gov.za

PART ONE - INVITATION TO QUOTE AND QUOTATION CONDITIONS

ATTENTION:

Dear Sir/Madam

**DEPARTMENT OF HEALTH: QUOTATION:
UMZIMKHULU MEDICO LEGAL MORTUARY: SUPPLY AND INSTALL A 20kVA CANOPY
TYPE OUTDOOR GENERATOR WITH ALL ASSOCIATED ANCILLARIES**

1. On behalf of the Province of KwaZulu-Natal Department of Health, we hereby invite you to quote for the above service, in accordance with the terms and conditions stipulated on this document.
2. **Please note that the quotation must be deposited in a sealed envelope endorsed with the Tenderer's name, the Contact Number and the Due Date, in the bid box situated at (street address), Supply Chain Management, Old Boys School, 310 Jabu Ndlovu, Pietermaritzburg, 3201 on or before the date stipulated on the advert.**
 - 2.1 The use of correcting fluid, e.g. "Tippex" etc. will lead to the automatic disqualification of the Quotation.
 - 2.2 Only the original document duly signed and completed in its entirety, will be given consideration.
 - 2.3 Labour hours, kilometres, nights out shall be included as part of material and equipment quoted for. Material and Equipment prices shall be firm for ninety (90) days from date of quotation.
 - 2.4 Only additions or omissions arising from written authorised variations, or documented delays caused by circumstances beyond the contractor's control will be accepted as a valid variation in cost.
3. **THE QUOTATION SHALL BE FULLY DETAILED AND INCLUDE THE FOLLOWING IN THE BOQ:**
 - 3.1 Subtotal
 - 3.2 15% VAT and Grand Total.
4. Kindly complete the attached document and return all pages as per paragraph above.

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The Contractor is required to check these documents and drawings and the number of pages listed above which together form the Contract Agreement document. The Contractor shall satisfy himself that this document is complete in accordance with the above schedule and if any pages or drawings are found to be missing, or duplicated, shall immediately request the Engineer to rectify the discrepancy. No liability will be admitted by the Employer in respect of errors in the Contractors quote due to the foregoing.

PART TWO (A) - SCHEDULE OF RETURNABLES

Returnable	Returned (Yes/No) – to be filled in by contractor
Proof required grading: 2 EP/EB or above	
Copy of trade test for electrician	
Proof of experience on installation of generators. Atleast 2 appointment letters/orders accompanied by completion certificates. NB: These must not be older than 2 years.	
Annexure B fully completed	

Failure to submit the required returnables under PART TWO (A) will disqualify the service provider.

PART THREE - CONDITIONS OF CONTRACT

These Works shall be carried out in accordance with the Terms and Conditions as specified in this document regarding installation.

PART FOUR - TECHNICAL SPECIFICATION

- 4.1 All electrical work is to be carried out in accordance with the Department of Health Standard Specification for the Electrical Equipment and Installation for Electrical Services.
- 4.2 All low voltage switchgear and control gear assemblies are to comply to SABS 1473 Part 1 - 1989 / IEC 439 - 1 1985, SANS 10142 and all applicable SANS standards.
- 4.3 The Contractor should fully familiarise himself with these documents prior to quoting.
- 4.4 An Electrical Certificate of Compliance, in accordance with the OHS Act, will be required for all Electrical Works.

GENERAL

- 4.5 This Technical Specification shall be read in conjunction with all other sections of the specification and cognisance shall be taken of the clauses relevant to this particular installation, whether any specific clauses are referred to or not.

GENERATOR SPECIFICATION

- 4.1 See/refer to Annexure A and Annexure B.

DESIGN CRITERIA

- 4.2 Generators will be as per the KZN Department of Health Standard Specifications for Outdoor Canopy Sets. (Copy attached as Annexure "A"). The following are the main important requirements.
 - Outdoor canopy type generators to be utilised.
 - Self banded diesel fuel tank incorporated into the generator base suitable to operate for 72 hours at full load.
 - Automatic start-up in the event of a ESKOM/Municipal power failure/outage.
 - Prospective Contractor to comply with the DoH specification in its entirety.
 - The use of only local manufacturer's/suppliers of generators that carry readily available spares shall be used by the prospective Contractor.

All associated electrical work, as well as the construction of concrete plinths will form part of the works.

COMPLETION ASPECT- REPORT AND AS BUILT DRAWINGS TO BE PRODUCED

- Check quality of work by Contractor to ensure compliance to DOH and Legislated Standards.

- Provide As Built Drawings of reticulation installed on site (Only works done by contractor)
- Provide all necessary documentation pertaining to quality checks done.
- Check and certify Quantities of materials installed.
- Submit a draft final account for Approval by the Client.

The Official site hand certificate will only be issued upon the receipt of the above documentation.

A one (1) year maintenance contract will be entered into with the service provider once the construction phase is completed.

The new generator set shall to be installed on a steel reinforced concrete plinth of sufficient MPa strength. Bund walls are not required as self-bunded tanks are specified.

PART FIVE - PARTICULAR SPECIFICATION

5. PARTICULAR SPECIFICATION

5.1. GENERAL REQUIREMENTS

Tenderers are to make special note of the following:

The whole installation shall be in accordance with the Occupational Health and Safety Act 85 of 1993 and all regulations framed therein shall be carried out to the satisfaction of the Department of Health.

Competent workmen skilled in their trade shall carry out all work. Quality shall be of the best standard practice and all workmanship will be subject to the approval of the Department of Health.

The work shall at all times, for the duration of the contract, be carried out under the supervision of a skilled and competent representative of the Contractor, who will be able and authorized to receive and carry out instructions on behalf of the Contractor. A sufficient number of workmen shall be employed at all times to ensure satisfactory progress of the work.

All apparatus, component parts, fittings and materials employed in the execution of the Contract shall be new and unused and shall be the latest type or pattern of the particular manufacture employed. S.A.B.S. mark bearing items shall be used wherever possible.

The complete installation must be guaranteed against defective parts and workmanship for a period of twelve months after the date of issue of the Completion Certificate. This period shall run concurrently with the maintenance period.

Rates are to include for commissioning and testing of the complete installation and handing over in working order ready for use.

Tenderers are advised to visit the site and acquaint themselves fully with the site conditions and nature and full extent of work involved prior to submitting their tender. Claims on the grounds of insufficient information in such respects or otherwise will not be entertained by the Administration.

The Administration reserves the right to make emergency repairs to keep the equipment in operation without voiding the Contractor's Guarantee, nor relieving the Contractor of his responsibility during the guarantee period when, after proper notice, the Contractor fails to attend to such emergency repairs. All costs incurred by the Administration under these circumstances will be for the account of the Contractor.

5.2. INTRODUCTION

The works cover the supply, installation, testing and commissioning of Standby generator sets as outlined in this document.

5.3. THE SITE

The site is Umzimkhulu Medico Legal Mortuary, behind Umzimkhulu SAPS.

5.4. SCOPE OF WORKS

This specification calls for:

- Supply and installation of a 20kVA generator.
- Supply and installation of all required cabling and cable trays.
- Supply and installation of a new distribution board.
- Supply and installation/construction of a plinth.
- Service the generator twice after works completion.

5.5. PROGRAM OF WORKS

A program shall be submitted prior to the commencement of any work.

5.6. DESCRIPTION OF WORK

The work is mainly supplying and delivery of the diesel tank with a bit of construction work wherein a plinth will be constructed as per the tanks works.

5.7. TESTING AND COMMISSIONING

All installation shall be tested and commissioned.

PART SIX - SCHEDULE OF RATES

6.1. ITEMS AND PRICING

The Department reserves the right to place an order for any quantities of items included in the Schedules. The Schedule of Rates must also not be assumed to include and describe every detail of the supply requirement, but must be taken and read in conjunction with the other parts of the document. Thus the supplier shall not have claim for further payment in respect of any order which may be described or implied in the contract, although apparently no corresponding items are given in the Schedule of Rates. The supplier shall be deemed to have satisfied himself before quoting as to the correctness and sufficiency of his quote for the contract and of the rates and prices stated in the Schedule of Rates.

6.2. TAX AND DUTIES

Prices, quoted and paid, must include all customs, excise and import duties, and any other tariffs or taxes levied by the government or statutory body having jurisdiction on the goods provided under this contract, including Value Added Tax (applicable to the current rate).

6.3. RATES

Except where provision is made in the Schedule of Rates, the rates and prices inserted shall be the full rates and prices for the service delivered described under the respective items and shall cover all labour, transport, overhead charges and profit, etc. as well as the general liabilities, obligations and risks arising out of the Conditions of Contract, the overhead charges and profit being spread proportionately over the rates of the relative items in the Schedule of Rates.

PART SEVEN - BILL OF QUANTITIES

SUPPLY, DELIVERY, INSTALLATION AND COMMISSIONING OF 20kVA CANOPY TYPE OUTDOOR GENERATOR WITH ALL ASSOCIATED ANCILLARIES AT UMZIMKHULU MEDICO LEGAL MORTUARY.

NOTE:

All rates for items contained in this Schedule of Prices must be computed excluding the applicable Value Added Tax but include labour, material, mark-up, overheads, transport costs, etc. The Administration reserves the right to Negotiate prices in the quotation. The work has to be approved by Engineer before processing the payment.

BILLS OF QUANTITIES

ITEM	DESCRIPTION	UNIT	QUANT.	RATE	AMOUNT
	<p>NOTE: The Quantities measured in the Bill are subject to re-measurement at completion of the works. Tenderers are to familiarise themselves thoroughly with the Specification No deviations from the specification will be allowed.</p>				
1	GENERATOR				
	SUPPLY AND INSTALLATION (Installation rates measured elsewhere)				
1.1	<p>Supply and install a 20kVA, 230V, Single Phase Canopy Type Generator, as specified (Complete with 72hr Self Bunded Fuel Tank, plus all other requirements as per DOH specification – Annexure A), with extra over for soundproofing of Canopy, transportation, labour, mark-up, etc. This includes the ATS.</p>	No.	1		
1.2	<p>Supply, install and commission DSE WebNet DSE7320 MKII Gateway complete with 1 x GPS antenna and 1 x GSM Antenna installed in sets above.</p>	No.	1		
1.3	<p>Supply and install suitable concrete plinth for Generator (include for all excavation compaction etc.)</p>				
1.4	<p>Data to be valid for the entire duration of the one year warranty period of 12 months</p>	No.	1		
2	CABLE TRENCHING				
2.1	<p>Excavation in earth (0.6m deep x 0.3m wide x 100m long) for cable in soft earth. Trenches including risk of collapse of excavations, keeping excavations free from water, setting aside excavated material and later refilling of trenches</p>	m ³	18		
	<u>TRENCH BEDDING</u>				
2.2	<p>Provide Trench Bedding and suitable compaction (0.2m deep x 0.3m wide x 100m long)</p>	m ³	6		

SUBTOTAL CARRIED FORWARD (excl. VAT)					
ITEM	DESCRIPTION	UNIT	QUANT.	RATE	AMOUNT
	<u>BACKFILLING</u>				
2.3	Backfill and compact soil in trench (0.4m deep x 0.3m x 100m long) and level ground.	m ³	12		
3	<u>ELECTRICAL CABLES, CABLE TERMINATIONS, CABLE JOINTS, DB, TRENCHING</u>				
	<u>LAYING CABLE</u>				
3.1	Supply and install 16mm ² x 3 core PVC.SWA.ECC.PVC cable - buried in ground	m	100		
3.2	Supply and install 16mm ² x 3 core PVC.SWA.ECC.PVC cable – in a cable tray	m	50		
3.3	Cable marker tape installed 200mm above cable depth.	m	100		
3.4	Supply and Install HDPE, 110mm diameter sleeve in trench, incl. couplings, 90 degree bends, etc.	m	15		
	<u>CABLE TRAY</u>				
3.5	Galvanised light duty cable trays, including short lengths and fixed to walls	m	50		
	<u>CHASING THROUGH CONCRETE</u>				
3.6	Cut concrete of 0.15m wide x 0.3m deep x 15m long	m ³	0.675		
3.7	Pour in concrete of strength similar to existing to cover the laid in cable sleeve and float to match existing surface	m ³	0.5325		
	<u>DISTRIBUTION BOARD</u>				
3.8	Supply and install a 26 way flush mounted, powder coated steel galvanised distribution board, painted in red for essential supply, inclusive of labelling as per the Department's Electrical Policy – 2013 using ivorene labels, including bus bars, etc. Dimensions: 380mm in height x 685mm in width x 120mm in depth. The DB shall be on DIN Rail type. Make good around the DB. The following CBs must be installed and mounted on the DB (all CBs to be rated at 10kA SCC): <ul style="list-style-type: none"> - Main Switch: 63A DP (Use existing 63A DP breaker) - New 10A x 2 SP for lights - New 20A SP for geyser - New 63A E/L unit for SOs - New 40A for fridges - 25A SP for AC 1 and AC 2 (Use existing) - 20A SP for SOs (Use existing SP breaker) - Use existing kWh meter - Use existing SPDs - 2 x 20A SP CBs - 2 x 40A DP CBs 	Item	1		

SUBTOTAL CARRIED FORWARD (excl. VAT)					
ITEM	DESCRIPTION	UNIT	QUANT.	RATE	AMOUNT
	<u>CABLE TERMINATIONS</u>				
3.9	Supply and install 16mm ² x 3 core PVC.SWA.ECC.PVC cable termination	Item	8		
	<u>RATE ONLY</u>				
3.10	Supply and install 25mm ² x 3 core PVC.SWA.ECC.PVC cable	m	1		
3.11	Supply and install 25mm ² x 3 core PVC.SWA.ECC.PVC cable terminations	No.	1		
3.12	Supply and install 25mm ² x 3 core PVC.SWA.ECC.PVC cable joint	No.	1		
	<u>KIOSKS</u>				
3.13	Supply and install fibreglass kiosk, complete with Plinth and fitted with 1 x 100A 3P isolator 1 x 100A 3P Circuit Breaker	No.	1		
	<u>MAINTENANCE AND SERVICING</u>				
3.14	Service the generator and clean diesel tank during the 12 month guarantee period (2 services and 2 diesel tank cleaning at 6 month intervals)	Item	2		
	<u>TESTING AND COMMISSIONING</u>				
3.15	Provide Completion Documentation files x 3 with manuals, set of keys, panel key, completion certificates, etc.	Item	1		
3.16	Test, commission and provide Certificates of Compliance for the installation	Item	1		
SUBTOTAL CARRIED FORWARD (excl. VAT)					

BILL OF QUANTITIES

PREAMBLE TO THE BILL OF QUANTITIES

1. All prices shall be quoted in the currency of the Republic of South Africa and will be held to be firm. Only where exchange rates have been stated in the quotation document, as at two weeks (14 days) prior to closing date of this quotation, will such exchange rate fluctuation be taken into account in the variation of the cost of the imported items/equipment.
2. The Tenderer shall enter a price against each item in the schedule of prices. If the Tenderer fails to enter a price against any item in the schedule of prices the relevant cost of such item shall be regarded as being covered by other prices in the schedule of prices.
3. **The prices quoted against each item of these schedules shall cover the full inclusive cost of everything required for the execution of the work under the item plus an apportionment of any cost involved in meeting the obligations and liabilities imposed by the conditions of contract and in complying with the specifications.**
4. The prices quoted for the supply of plant and equipment shall include for all handling, loading, transporting and off-loading required for the delivery of the plant and equipment to the site, including in the case of off-site storage for double handling at the store.
5. The prices quoted for erection and installation shall include for all handling, loading, transporting and off-loading, to take plant and equipment to place on site where required, erection, installation, painting, commissioning, operating, testing, adjusting, handing over in proper working order and guarantee for a period of 12 months, all as specified.
6. The tendered rates and amounts must exclude Value Added Tax (VAT) but must include all levies, other taxes and duties on items to which they apply. Separate provision has been made in the Summary of Schedule of Prices for the purpose of VAT.
7. The Schedule of Prices shall be completed and signed in **black ink**. Corrections must be done by deleting, re-writing and initialling next to the amendment.
8. Electrical and Mechanical work is not measured according to the Standard Procedures of Building Work.

ANNEXURE A – GENERATOR TECHNICAL SPECIFICATION

1. GENERAL: CANOPY TYPE STANDBY GENERATOR

The ~~Canopy Type~~ stand-alone standby generator set herein specified is to be installed at The ambient temperatures are 40°C maximum and 10°C minimum andm above sea level.

In order to best meet South Africa's employment targets, locally assembled generator sets will receive preference.

Due to the critical nature of this installation, ONLY genuine and accredited DIESEL GENERATOR SET MANUFACTURERS with Local 24 hour support and IN HOUSE maintenance facilities will be considered.

When pricing this document, allowance must be made for the installation to be carried out after hours and / or over a weekend at a time suitable to the KZN Department of Health's institution. Prior to any shutdown it should be agreed with the Health Institution whether any temporary standby plant is required. Apart from this, downtime must be kept to a minimum and once an installation starts, it must be completed and commissioned without any interruptions. The Tenderer must provide documented proof that they have the staff and capacity to carry out this type of installation.

2. SCOPE OF CONTRACT

The contract comprises the design, manufacture, assembly, delivery to site, off-loading at site, installation, testing, commissioning and handing over in first class working order of a complete Canopy type standby diesel generating set and all ancillary equipment necessary to comply with the requirements of this specification. The plant generally shall comprise a diesel engine coupled to an alternator mounted on a common base, a set of starting batteries, automatic charging unit, interconnecting cables, a control panel housing the generator M.C.C.B. and all necessary switchgear, including the change over equipment and on-load bypass switch, together with a fuel system, capable of running the set for 72 hours at full load. The set and bulk tank shall be positioned underneath the generator and be self-bunded.

3. CANOPY & PLANT LOCATION

The set shall be a canopy type unit. The weather proof canopy shall be manufactured from galvanized sheet for inland locations and 3CR12 for coastal locations. It shall fit onto the sets base frame, making the entire unit self-contained. Lockable hinged doors (container type system with a robust locking facility required) shall allow access for maintenance purposes and louvres complete with vermin proofing shall be installed at both ends. The louvres shall be sized to suit the sets cooling and combustion air flow requirements. The canopy shall be painted with an etching primer, then finished with two coats of enamel paint.

The bunded slabs for both the generator set and bulk tank (where applicable and if required) forms part of this contract and drawings shall be provided to the engineer for approval, prior to construction taking place.

The standby diesel generating set shall to be located as indicated.

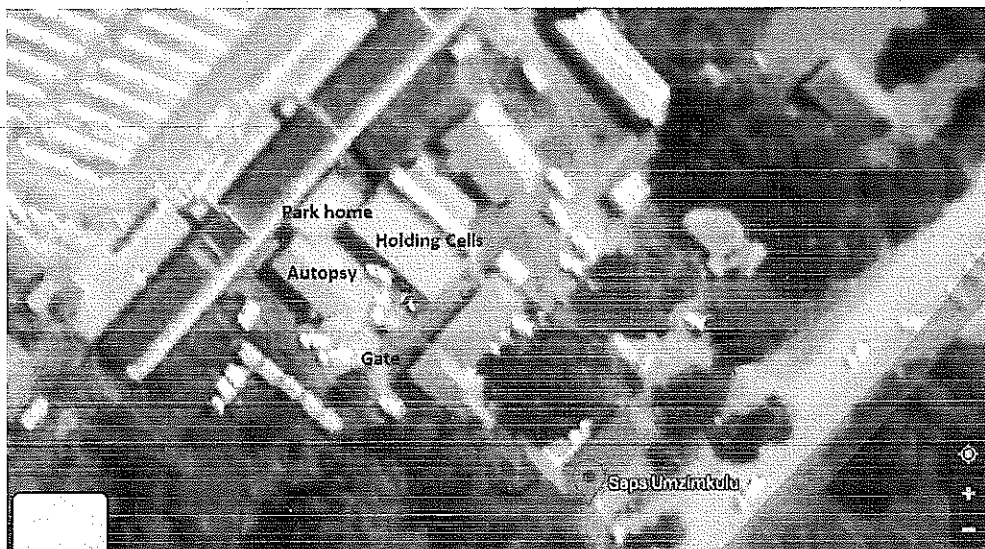


Figure 1: Generator Position in Red

Tenderers are advised to acquaint themselves with the site conditions including access, as no claim on the grounds of want of knowledge will be entertained.

4. PLANT DUTIES

The diesel generating set and its ancillary equipment shall normally operate as an automatic mains failure unit. It shall be capable of delivering its full rated output at any time and any ambient conditions likely to occur at the site. The generating set will not be required to be synchronized with the main supply.

5. SYSTEM

The system to which the plant is to be connected is 3 phase, 4 wire, 400 volt between phases and 230 volt between phase and neutral, with a frequency of 50 Hz.

6. RATING

**Note: The unit shall be capable of delivering 20kVA at 0.8 power factor.
The unit shall deliver 60% initial load + - 15 sec after start up and the balance of load 40% shall be delivered after a further 10 sec.**

The rating of the diesel generating set shall be based on operation of the set when equipped with all necessary accessories such as radiator fan, air cleaners, lubricating oil pump, fuel transfer pump, fuel injection pump, water circulating pump, and battery charging alternator.

The generator set shall be capable of delivering the specified output continuously under the site conditions without overheating. The engine shall be capable of delivering an output of 110% of the specified output for one hour in any period of 12 hours consecutive running in accordance with BS5514.

7. DIESEL ENGINE

7.1. Type

The engine shall be of the multi cylinder, four stroke cycle, cold starting, direct injection, compression ignition type, suitable for operation on diesel fuel.

Only genuine engines with full local Original Equipment Manufacturer (O.E.M.) backup will be accepted. Grey products and "copies" will under no circumstances be accepted and will lead to the tender being rejected.

7.2. Cooling System

The engine shall be of the water cooled type and the cooling system shall be of sufficient capacity to cool the engine when the set is delivering its full rated load in the ambient conditions specified in Clause 1.

The engine shall be equipped with a heavy duty type radiator, complete with engine driven fan and centrifugal water circulating pump and a thermostat to maintain the engine at the makers recommended temperature level.

A thermostatically controlled immersion heater shall be provided and fitted in the engine cooling circuit to ensure easy starting of the engine at any ambient temperature.

The heater shall be so fitted that it can easily be withdrawn without having to drain the system. The heater shall be suitable for a 220 volt 50 Hz supply.

A low radiator level shutdown sensor switch shall be fitted in the radiator header tank. A separate temperature sensor must be fitted on the block for the normal high engine temperature shutdown and gauge.

The sight gauge shall be easily accessible for reading purposes and it shall be safe and easy to top up the coolant without having to climb inside or over the unit.

7.3. Speed

The engine speed shall not exceed 1500 R.P.M. at normal full load conditions.

7.4. Fuel

The engine shall be capable of satisfactory performance on a commercial grade of distilled petroleum fuel oil such as Number 2 fuel oil. (Commercial grade diesel fuel: **500ppm**).

7.5. Rating

The engine shall be suitable for continuous running at the specified speed, delivering its rated output at the specified site conditions.

In addition the engine shall be capable of delivering 110 % load for one hour, after the set has been running at full load for a period of six hours and shall, after the overload period of one hour be capable of maintaining the rated output continuously without any undue mechanical strain, overheating, incomplete fuel combustion or other ill effects.

The engine shall have sufficient capacity to start up and shall within 15 seconds from mains failure, supply the full rated load at the specified voltages and frequency.

7.6. Governor

The engine shall be of the latest electronic type, or controlled by a governor to maintain governed speed for 50 Hz operation. Class A1 governing in accordance with B.S. 5514 as amended is required.

7.7. Fuel System

The complete system including bulk and base tank shall be sized to allow the set to run for 72 hours at full load.

An engraved label shall be installed in a conspicuous area on the generator control panel that indicates the following:

- **Base tank capacity.**
- **Bulk tank capacity (if applicable).**
- **Full load litres per hour consumption.**

7.7.1 Base tank

Normally for generators rated up to and including 200 kVA:

The fuel tank shall be an integral part of the base frame of the generator set. The base tank shall have sufficient capacity to run the engine on full load for a minimum period of 72 hours.

Generators rated above 200 kVA:

Should this not be possible, a combination of a “base” “day” tank and “bulk” tank, will be required to meet the 72 hour (at full load) running time period.

The base tank shall be a closed channel self-bund walled type that shall be of sufficient capacity to contain any spillage, equivalent to 80% in volume of the base tank. A float level alarm connected to the generator controller shall be incorporated into the bund area located such that the alarm will be activated when 50% of the volume of the bund area has been reached in the event of any diesel fuel leakage.

The base tank shall be fitted with a suitable filter, breather pipe, visual gauge, removable inspection cover, drain, filler cap, low level and extra low shutdown alarm sensors. These shall supply an audible and visible signal on the control panel.

In addition, pump / solenoid valve start / stop sensors are required to control the automatic filling of the base tank from a remote free standing tank.

The set shall also be supplied with a hand operated “wing pump” and a suitable length of oil resistant hose, suitable for filling it from containers. The hose shall be of the “push lock” type and shall be sufficient in length to extend 5 meters outside of the canopy door.

The fuel tank shall be an integral part of the base frame of the generator set. The tank shall have sufficient capacity to run the engine on full load for a minimum period of 12 hours.

7.7.2 Bulk Tank (if the base tank cannot meet the required volume)

The bulk fuel tank shall consist of an ISO 9001 quality containerised double walled tank mounted on a steel reinforced concrete plinth of suitable MPa strength to carry the weight of a fully fuelled bulk tank and canopy type generator. The size and configuration of the bulk tank shall be matched to the size of generator to enable the generator to run continuously for a minimum period of 60 hours on full load.

In the event of the standard bulk tank size being in between the required volume, the next largest size must be supplied

The composite bulk tank together with all interconnecting supply and return pipes, low level alarm, **visual** fuel level indicators, lockable shut off valves, breather and an automatic filling system shall be provided. The bulk tank shall be positioned as shown on drawing No. NOT APPLICABLE

The automatic filling of the base tank, from the bulk tank, shall be controlled by level switches mounted in the base tank. These switches shall start and stop the electric self-priming pump, or solenoid valve system.

Manually operated filling of the base tank from the bulk tank shall be by way of a spring loaded push button switch that shall switch off the pump if the push button switch is released by the operator.

Drain plugs shall be constructed in such a manner that shall prevent the removal of such drain plug by conventional means i.e. shifting spanner, pliers etc.

The construction of the reinforced concrete plinth and other minor civil work shall form part of this contract.

7.8. Lubricating

The engine shall be provided with a forced feed lubricating system with a gear type lubricated oil pump for supplying oil under pressure to the main bearings, crank pin bearings, pistons, piston pins, timing gears, camshaft bearings, valve rocker mechanism and all other moving parts.

Full flow replaceable element type oil filters, conveniently located for servicing, shall be provided. Filters shall be provided with a spring loaded by-pass valve to ensure circulation if the filters become clogged.

7.9. Cylinder Liners

The engine shall be provided with removable wet or dry type cylinder liners of close grained alloy iron.

7.10. Air Cleaners

The engine shall be provided with one or more dry type air cleaners which shall provide positive air filtration.

7.11. Exhaust System

The engine shall be fitted with an efficient 3CR12 exhaust system for inland areas (>50 **km's from the coast**) or Grade 304 stainless steel in coastal areas. Flexible bellows shall be fitted between the exhaust outlet and the silencer. The flexible piping must on no account be used to form a bend or compensate for misalignment. The silencer shall be located within, or on top of the canopy. The silencer shall be of the highly efficient type suitable for use in residential areas and shall be capable of providing 20 to 30 decibels of suppression.

The silencer and discharge piping shall be suitably supported.

The exhaust pipe inside the canopy shall be suitably lagged then clad in galvanized or polished stainless steel sheet.

The end of the exhaust shall be cut to a 45 degree angle, in order to prevent rain ingress and mesh shall be welded into the end to prevent birds or rodents from entering the pipe.

7.12. Flywheel

The flywheel shall be designed to limit the cyclic irregularities to within the limits laid down in B.S. 5514 as amended.

7.13. Engine Starting

The engine shall be equipped with a 12/24 volt starting system of sufficient capacity to crank the engine at a speed, which will allow starting of the engine.

The starting equipment shall include a 12/24 volt D.C. starter motor engaging directly on the flywheel ring gear. A heavy duty battery charging alternator and maintenance free batteries of the Delco/Deltec type shall be supplied. The batteries shall be mounted in a lockable battery box.

The batteries shall be connected to the engine with suitably rated P.V.C. insulated flexible leads.

The batteries shall have sufficient capacity to provide three automatic attempts to start immediately followed by three manual attempts without any appreciable drop in voltage. The automatic attempts to start shall each be of not less than 10 seconds duration with 10 second intervals between and the manual attempts shall be based on the same cranking period.

A device shall be provided to limit the cranking time of each automatic attempt to start, to the 10 seconds specified above and to provide three automatic attempts after which the automatic starting mechanism will cut out until manually reset and at the same time sound an audible alarm and illuminate the L.E.D. on the AMF controller. The engine driven battery charging alternator shall have sufficient capacity to recharge the batteries back to normal starting requirements in not more than six hours.

A battery charging unit of the trickle charge type shall be provided to maintain the batteries at full capacity when the set is at rest. The charging equipment shall be connected so that the battery is normally charged from the mains, but is also charged under mains failure conditions from the diesel generating plant and if required via an inhibitor relay to prevent dual charging. The unit shall be complete with voltmeter, push button test, D.C. and A.C. protective gear. The charging unit shall be incorporated in the diesel generator control cabinet.

7.14. Engine Instruments

As per the Deep Sea 7320 Controller.

7.15. Safety Controls

The engine shall be equipped with the safety controls as specified in 11.4.

7.16. Engine/Alternator Coupling and Base

The engine and alternator shall be direct coupled and arranged for operation at 400/230 volt, 50Hz and 1500 RPM.

A steel fabricated base-frame (incorporating the day fuel tank) with anti-vibration mounts between the engine / alternator combination and base shall be provided and must be able to be placed directly on the concrete plinth / slab.

The base frame shall incorporate the canopy mounting arrangement.

8. RADIATOR EXTRACT DUCTING

A galvanized duct shall be provided and installed between the radiator face and outlet louver to positively duct the hot expelled air out of the canopy. A flexible section shall be fitted between the radiator face and duct in order to prevent the recirculation of hot discharged air.

9. A.C. GENERATOR

As per the engine requirements, only genuine and locally supported recognised Original Equipment Manufacturers (O.E.M.) alternators will be acceptable. Grey products and copies are unacceptable and will result in the Tender being rejected.

9.1. Rating

The generator shall be a 400/230 volt, 3 phase, and 4 wire 50 Hz machine. The generator rating shall be applicable for continuous service application.

Note: The unit shall be capable of delivering 20kVA at 0.8 power factor. The unit shall deliver 60% initial load + - 15 sec after start up and the balance of load 40% shall be delivered after a further 10 sec.

9.2. Construction and Manufacture

The generator shall be a revolving field type, coupled directly to the engine flywheel through a flexible disc for positive alignment. The generator housing shall bolt directly to the engine flywheel housing and shall be equipped with a heavy duty ball bearing support for the rotor. The motor shall be dynamically balanced up to 25 % over speed.

The generator shall be of heavy duty compact design. Insulation shall be Class H as recognised by B.S.5514.

The generator field excitation shall be performed by a rotating exciter mounted on the generator motor shaft through a brushless rotating diode system. The voltage regulator shall be of the static-magnetic type with silicon diode control. It shall be mounted on the top or side of the generator and enclosed in a drip proof enclosure. A built in voltage adjusting rheostat shall provide 10 % voltage adjustment.

9.3. Performance

The generator shall be capable of continuously delivering the full rated load specified in Clause 9.1 and of providing a 10 % overload for the period and in the manner specified for the engine in Clause 7.5.

9.4. Wave Form

The shape for the voltage and current wave shall be within the limits laid down by B.S. 5000.

9.5. Voltage Regulation and Response

The alternator shall be self-regulated and shall incorporate an automatic voltage regulator.

The voltage regulation shall not exceed $\pm 2\frac{1}{2}\%$, from no load to full load, including cold to hot variations at any power factor between 0.8 lagging and unity and inclusive of speed variations within the limits stated in Clause 7.6.

Upon application of full load at a power factor of 0,8 lagging the alternator voltage shall recover to within $2\frac{1}{2}\%$ of the steady state value within approximately 300 milliseconds.

Upon application of any load specified in transient, maximum voltage dip shall not exceed 20% of the nominal voltage when measured at the alternator terminals.

9.6 Windings

The generator stator windings shall be star connected with the star point brought out and connected to the neutral terminal in the terminal box on the generator to provide a 400/230 volt supply.

9.7. Terminal Box

The terminal box shall be fitted to suit the cable route and it shall be large enough to allow for glanding and connecting the cables specified in Clause 12.2.

9.8. Radio and T.V. Interference

The generating set shall be suitably suppressed within the limits of B.S. 800 against radio and television interference.

10. DIESEL GENERATOR CONTROL PANEL

10.1. Type and Construction

The control panel shall be designed for the control of the diesel generating set with instrumentation and protective devices to meet both manual and automatic mode requirements.

The control panel shall be of robust construction, totally enclosed and dustproof.

It shall be of folded 1,6 mm thick cold rolled sheet steel construction, suitable for front entry through hinged doors. Internal chassis plates, circuit breaker pans and gland plates shall be provided. Special attention shall be given to vermin proofing and dust sealing.

Prior to painting, all steelwork must be thoroughly degreased and re-rusted and then primed with a zinc chromate primer. All internal steel chassis plates, gland plates and switchgear brackets shall be painted with white powder epoxy paint and all exterior steel surfaces shall be finished with red powder epoxy paint

The control panel shall be built into three separate sections, with the controls, change-over and on load bypass switch each having its own section.

10.2 Bus-Bars, Wiring, Switchgear, etc.

All bus-bars and wiring shall be adequately rated and suitably supported, and control wiring shall be neatly laced and numbered with durable plastic ferrules, for easy tracing. Suitable terminals are to be provided for incoming and outgoing cables. Suitably sized holes shall be punched in the gland plates for the required number of cable terminations for both incoming and outgoing cables. The cables shall be secured to the gland plate by means of cable glands as Pratley, C.C.G. or other approved. The gland plate shall be suitably braced to prevent distortion after the cables are glanded thereto.

Circuit breakers are to be of moulded case construction and the 4 pole motorized change-over switch and "On Load" bypass switch shall be a reputable make, with full local representation.

All instrumentation shall be of 1.5% accuracy and their performance shall comply with B.S.89. The instruments shall be flush mounted and the dial dimensions shall be 96mm x 96mm.

Tenderers must give assurance with their tender that replacements for the equipment, switchgear and instruments used in the construction of the panel are readily available from stock held in the Republic of South Africa.

11. CONTROL PANEL

11.1 The change-over panel is to be situated inside the canopy.

11.2 The supply and installation of all cables and supports between the generator set and AMF control panel forms part of this contract.

11.3 Changeover Board and Bypass Switch

11.3.1 1 x T.P. Generator MCB. The MCB shall be rated to suit the generator offered and shall have both adjustable thermal and instantaneous overload elements.

11.3.2 **If over 150kVA**

1 x Set of Four Pole automatic changeover isolators with motor operated mechanisms (Minimum rating of 630amps) and with appropriate auxiliary and control contacts with electrical and mechanical interlocking arrangements to the approval of the Department. The units are to be Socomec, ABB or other approved **prior to the close of the Tender.**

11.3.3 **If under 150kVA**

1 x Set of Four Pole suitably rated contactors with electrical and mechanical interlocking arrangements to the approval of the Department.

11.3.4 **If over 150kVA**

1 x On load hand operated by pass switch (Minimum rating of 630amps) of the isolator type with three operating positions labelled "NORMAL", "OFF" and "BYPASS" to enable the changeover equipment and control circuitry to be by

passed for maintenance purposes. The units are to be Socomec, ABB or other approved **prior to the close of the Tender.**

11.3.5 **If under 150kVA**

No by-pass switch required.

11.3.6 3 x Open ring CT's suitably scaled.

11.3.7 1 x Open ring VT

11.3.8 Load, neutral and earth bus-bars.

11.3.9 Control Section

- a) Automatic constant voltage battery charger.
- b) Electronic governor control (if required and not an electronic engine).
- c) Control C/B for instruments.
- d) Control relays for change over contacts.
- e) 12 / 24 Volt fuel relays.
- f) Terminal strips.

11.3.10 Door Mounted Components

NOTE: While the controller incorporates some of this equipment, the specified items as detailed below are STILL REQUIRED and shall be mounted on the door.

- a) 1 x Deep Sea DSE 7320 Generator Controller
- b) 3 x Flush mounted M.D.I. 96 x 96mm dial ammeters suitably scaled
- c) 1 x Flush mounted 96 x 96 mm dial voltmeter, 0 - 500VAC.
- d) 1 x Flush mounted voltmeter selector switch with off, phase to phase and phase to neutral positions.
- e) 1 x Flush mounted running hour meter.
- f) 1 x Emergency stop push button - "Latching type".
- g) 1 x Engine alternator charge indication.

11.4 Control Equipment Requirement

Control systems may not consist of the electromagnetic relay type. **Only the Deep Sea DSE 7320** or equivalent (Subject to approval by DoH **prior to the closure of the Tender**) solid state programmable systems will be accepted.

The solid state controller and associated systems wiring shall be to the control system manufacturer's guidelines and shall be adequately protected against transient over voltages arising from lightning effects, switching surges, power system surges or mains and alternator borne noise/interference. Full details of the suppression systems are to be provided at tender. Wiring to and from the solid state programmable

controller is to be screened as necessary to prevent electrostatic and magnetic interference from adjacent wiring/systems.

SPECIFICATION FOR CONTROLLER

FRONT PANEL INDICATORS AND DISPLAYED MESSAGES

The controller status including Warning and Shutdown/ Critical alarms shall be indicated by a combination of LCD and messages on the LCD display.

CONDITION	LCD	DISPLAY MESSAGE	WARNING	SHUTDOWN
HIGH ENGINE TEMPERATURE		X		X
LOW OIL PRESSURE		X		X
OVER SPEED		X		X
UNDER SPEED		X		X
LOW FUEL AT 30% OF CAPACITY	X	X	X	
NO FUEL AT 10% OF CAPACITY	X	X		X
LOW BULK TANK		X	X	
LOW WATER		X		X
START FAILS AFTER 3 CRANKS AT 10 SECOND INTERVALS.	X	X		X
EMERGENCY STOP	X	X		X
SHUTDOWN / CRITICAL	X	X		X
MAINS PHASE ROTATION FAULT		X		X
HIGH MAINS VOLTS		X		X
LOW MAINS VOLTS		X		X
MAINS ON	X	X		
MAINS ON LOAD	X	X		
ALTERNATOR ON	X	X		
ALTERNATOR ON LOAD	X	X		
ALTERNATOR PHASE ROTATION		X		X
HIGH ALTERNATOR VOLTS		X		X
LOW ALTERNATOR VOLTS		X		X
BATTERY VOLTS FAULT		X	X	
ALTERNATOR CHARGE FAULT		X	X	
AUTO	X			
TEST	X			
MANUAL	X			
MANUAL START	X			
MANUAL STOP	X			
MANUAL OR TEST (NOT IN AUTO)	X			
TIME DELAYS IN SECONDS				
MAIN FAILURE DELAY	10			
START-UP TIME	5			
MAINS RETURN DELAY	60			
COOL DOWN DELAY BEFORE SHUT DOWN.	120			

FRONT PANEL SWITCHES

As per the Deep Sea 7320 controller

PLANT OPERATION

The mode-selector touch pad functions shall be as follows

OFF/RESET	Control system off and alarm condition reset.
AUTO	Automatic starting and stopping of the set dependant on the mains supply.
MANUAL	Starting and stopping activated manually. In this mode the load will not be transferred in the event of a mains failure.
TEST	The set will start automatically in this position. The load will be taken by the alternator in the event of a mains failure and will run off load.

LOGGING OF EVENTS

As per Deep Sea DSE 7320 controller

USER PROGRAMMABLE

As per Deep Sea DSE 7320 controller

12. ELECTRICAL

Cables between the generator set and control panel shall be supplied and installed in accordance with the requirements of the S.A.N.S. Wiring Code (S.A.N.S. 10142 – 1:2017 as amended).

12.2. Terminations

The cables are to be made off with suitable cable glands as C.C.G, Pratley or other approved. The cable glands at the control panel shall be secured to the gland plate in the base section of the panel and at the generator end to the terminal box.

The cable conductors shall be terminated with suitably rated pressure crimped cable lugs.

12.3. Earthing

The neutral point of the generator shall be solidly connected, by means of an appropriate size of insulated earth conductor, to the earth bar in the alternator and in the panel. All plant, ancillary equipment and steel work in the stand-by plant room shall be suitably bonded together with an appropriate size of bare copper tape which shall also be connected to the earthbar.

An Earth Mat should be installed (if not already in place) of sufficiently low impedance to match the generator rating.

12.4. Phase Rotation

The Contractor shall ensure that the mains and generator phase rotations are identical. The existing phase rotation shall be determined prior to the changeover shutdown to ensure that the new set is connected with the same phase rotation.

13. PAINTING

a The engine and generator shall be painted **uniformly** with best quality enamel paint in **colour approved by the Department.**

The control panel shall be painted with best quality powder coated signal red paint.

14. TESTING

14.1. Testing At Contractor's Premises

An acceptance test shall be carried out at the Contractor's works to establish that the diesel generating plant and its ancillary equipment meets with the requirements of the specification. The Contractor shall give the consultant at least seven days notice prior to testing the plant. In the event of the plant failing the test and having to be re-tested, at some future date, all expenses (including travelling) incurred by the consultant in attending the second test will be to the Contractor's account. All fuel used for the test will be for the tenderers account.

- a) Simulate a mains failure to automatically start the plant from cold to test its ability to attain full rated speed and voltage and assume the full load in the specified time of ten seconds.
- b) Test run the plant at full load for a period of one hour.
- c) Immediately after the above specified run, without stopping the plant, run it for a further hour at 110 % load.
- d) Test the plant with regards to voltage dip, voltage and frequency recovery, with a sudden application of various loads.
- e) Test the plant for its ability to assume full rated load immediately on failure of the normal supply.
- f) Test and demonstrate (by simulation only where actual Conditions could damage the plant and its ancillary equipment) the correct operation of the engine safety controls and alarms together with other alarms as specified.
- g) Any other tests the client may consider necessary to establish that the diesel generator and its ancillary equipment as a whole is functioning correctly and in accordance with the specification.

NB The Contractor shall provide necessary instruments and equipment for carrying out the tests. The test equipment shall be capable of producing 100 % load for one hour and 110 % load for a further hour continuously without interruption. The test load shall be adjustable and balanced over three phases.

The instrumentation shall be capable of recording and producing printed data pertaining to transient voltage dips, recovery time, applied load, etc, as specified in Clause 9.5.

14.2. Tests On Site

On completion of the installation of the plant, the following test shall be carried out.

- a) Automatic starting and stopping with load change over. The load in this instance will be provided by the client.
- b) Test by simulation only of the operation of the engine protection and alarm devices.
- c) Any other tests which the consultant may require on site.

15. NOTICES & LABELS

15.1. Warning Notice

The Contractor shall provide and install in a conspicuous position in the plant room a clearly legible and indelible notice 450 x 450mm made from non-deteriorating material, preferably plastic with red letters on a white background worded to read as follows:

DANGER

THIS ENGINE WILL START WITHOUT NOTICE. TURN THE CONTROLLER OFF AND PRESS THE EMERGENCY STOP BUTTON IN BEFORE WORKING ON THE PLANT.

- 15.2 All labels shall be RED engraved letters on WHITE Ivorene glued with super glue or pop riveted to cover plates where applicable. Letter size shall be a minimum of 3mm.

16. OPERATING AND MAINTENANCE MANUALS, ETC.

The Contractor shall supply three complete comprehensive sets of operating and maintenance manuals, complete with schematic control diagrams and complete spare parts list for both engine and generator.

The above manuals are to be handed to the authorized representative on completion of the installation.

In addition a complete schematic diagram of the power and control circuitry is to be mounted in a glass fronted wooden or non-ferrous metal frame and fixed **to the canopy door adjacent to the generator control panel.**

The Contractor is to provide a schedule containing particulars and part numbers of all major components e.g. relays, timers etc. of the control circuitry to facilitate the ordering of spares.

NOTE: Under no circumstances will **Practical Completion** be taken of the plant and **equipment** unless these requirements have been completed.

17. DRAWINGS

Within one month of the receipt of order the successful Tenderer shall submit prints of each of the following drawings for approval:-

- a) General arrangement of the stand-by plant switchboard front panel.
- b) Schematic of the complete electrical systems, including starter motor, battery and automatic battery charger.

- c) Dimensioned layout of all plant in **the canopy compartment**.

18. SPARE PARTS

Tenderers must **provide an assurance** with their Tender that spare parts for the plant offered by them as a whole are readily available within the Republic of South Africa and to state where these **spare parts** are available.

19. GUARANTEE AND MAINTENANCE

19.1. General

The Contractor shall guarantee and maintain the Contract Works for a period of twelve months (12) after **Works Completion** of the plant. During the maintenance period the Contract Works shall be maintained as specified in Clause 21 by the Contractor and any defective material, equipment or workmanship (excepting proven, willful or accidental damage, or fair wear and tear) shall be made good with all possible speed at the Contractor's expense and to the satisfaction of the client.

19.2. Making Good

When called upon by the client the Contractor shall make good on site and shall bear all expense incidental thereto including making good of work by others, arising out of removal or reinstallation of equipment. All work arising from the implementation of the guarantee or maintenance of equipment shall be carried out at times which will not result in any undue inconvenience to users of the equipment or occupants of premises.

If any defects are not remedied within a reasonable time the client may proceed to do the work at the Contractor's risk and expense, but without prejudice to any other rights which the client may have against the Contractor.

19.3. Latent Defects and Failure to Comply with Specification

The client reserves the right to demand the replacement or making good by the Contractor at his own expense of any part of the Contract which is shown to have any latent defects or not to have complied with the Specification, notwithstanding that such work has been taken over or that the guarantee period has expired.

19.4. Qualification by Tenderer

Should any specified materials or equipment in the Tenderer's opinion be of inferior quality, or be unsuitably employed, rated or loaded, the Tenderer shall prior to the submission of his tender advise the consultant accordingly. His failure to do so shall mean that he guarantees the work including all materials or equipment as specified.

20. MAINTENANCE

At six monthly intervals (2) during the guarantee period of twelve months, starting from the date of Works Completion, the Contractor shall adjust and maintain the standby plant and its ancillary equipment in proper working order. As a minimum requirement the Contractor shall:

- a) Check and top-up if necessary, the fluid levels in the radiator, engine sump, fuel oil tank and batteries.

- b) Test run the standby plant and ancillary equipment for a period of 15 minutes.
- c) Wipe down the standby plant and its ancillary equipment and report on any evidence of any fluid leaks or other defects.
- d) Fill in the standby plant logbook.

The cost of such inspections, maintenance, adjustments, repairs, etc., shall be included in the tender price, but the cost of renewing any part which may become worn through fair wear and tear, or damaged beyond the control of the Contractor (provided this is not due to unsuitable design) shall be excluded.

If during the guarantee and maintenance period the standby plant is not in working order for any reason for which the Contractor can be held responsible, then the Contractor will be notified and immediate steps shall be taken by him to remedy the defects. Should the standby plant defects be so frequent as to become objectionable or should the equipment otherwise prove unsatisfactory during the guarantee period of twelve months, the Contractor shall, if called upon by the client, at his own expense replace the whole or such parts thereof as the client may deem necessary with equipment to be specified by the client. Approval - tacit or otherwise - of the equipment installed shall be considered as provisional only and shall not invalidate the client's right as indicated above.

21. SCHEMATIC

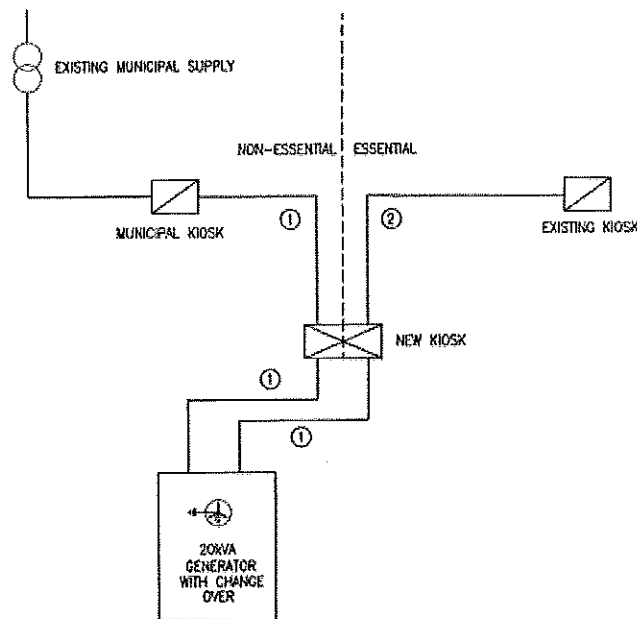


Figure 2: Generator Schematic

ANNEXURE B - SCHEDULE OF EQUIPMENT

The Schedule of equipment offered shall be fully completed by the Tenderer.

OUTDOOR TYPE STANDBY GENERATOR SET- 20kVA

GENERAL

Tenderers must complete the following schedule of information and are to submit with their Tender comprehensive literature on the equipment offered including countries of origin.

FAILURE TO COMPLETE AND SIGN THIS SCHEDULE IN ITS ENTIRITY SHALL LEAD TO DISQUALIFICATION OF THE BID.

DIESEL ENGINE

DIESEL ENGINE

- a) Make and Model
- b) Type (two or four stroke).....
- c) Performance Parameters
 - i) Rated output at sea level: Prime Power:kVA / kW.
Standby Power.....kVA / kW.
 - ii) Rated output atmetres above sea level (Altitude of hospital/Institution)
Prime PowerkVA / kW.
Standby Power.....kVA / kW.
 - iii) Ambient air temperatures atmetres above sea level (Altitude of hospital/Institution)
Minimum °C.....
Maximum °C.....
- d) Governed speedRPM
- e) Number of cylinder
- f) Diameter of cylindersmm
- g) Stroke of pistonmm
- h) Piston speedm/minute
- i) Type of air cleaner
- j) Type of lubricating oil filter
- k) Make and type of injection system
- l) Type and number of fuel filters
- m) Manufacture and type of turbo-charger

- n) Manufacturer and type of governor
- o) Max cyclic variations
- p) Speed variation for sudden release or application of load: i) Temporary
ii) Permanent
- q) 100% Rated full load may be applied seconds after initiation of starting sequence
- r) Specific fuel consumption at full load. Litres/ HR (submit curves)
- s) Air quantity required for engine coolingcu.m/min.
- t) Cross sectional area of radiator air discharge outlet required

STARTING BATTERY

- a) Manufacturer.....
- b) Type
- c) Capacity.....
- d) Voltage.....

ALTERNATOR

- a) Make
- b) Type
- c) Type of bearings
- d) Method of lubrication
- e) Rated load at 0.8 power factor at 400 / 230 volt 50Hz 3 Phase
 - i) Continuous rating.....kVA.....Amps.....
- f) Efficiency of alternator at full load
- g) Output voltage within governed speed range at: i) No loadVolts
50%loadVolts
100% loadVolts
110% loadVolts
- h) Method of voltage regulation

CONTROL CUBICLE

- a) Manufacturer
- b) Dimensions of control cubicle: Length.....mm
Widthmm
Heightmm

- c) Type of control equipment
- d) Type, make and rating of 4 pole by pass switch
- e) Type, make and rating of 4 pole motorised change-over switch
- f) Rupturing capacity at rated voltage of main circuitK.A.
- g) Method of tripping employed in main circuit breaker.....
- h) Range of load setting of main circuit breaker
- i) Electrical and mechanical interlock provided: YES..... NO..... TYPE

VOLTMETER

- a) Make and type
- b) Dial dimensions.....
- c) B.S.S. accuracy.....

MAXIMUM DEMAND AMMETERS

- a) Make and type
- b) Dial dimensions.....
- c) Time lag
- d) B.S.S. accuracy.....

FREQUENCY METER

- a) Make and type
- b) Dial dimensions.....
- c) B.S.S. accuracy.....

SELF BUNDED FUEL TANKS

- a) Base tank size
- b) Bulk tank size
- c) Bulk tank manufacturer and model number

EXHAUST

- a) Exhaust material.....
- b) Exhaust material, silencer and outlet pipe.....

MASS OF PLANTkg

OVERALL DIMENSIONS OF PLANT

- a) Length.....
- b) Height.....
- c) Width.....

TYPE AND RATING OF EQUIPMENT TO BE USED FOR LOAD TESTS

.....

COMPANY NAME AND ADDRESS OF BULK TANK INSTALLATION

.....
.....

IS THE TENDERER A DIESEL GENERATOR SET MANUFACTURER WITH LOCAL MANUFACTURING AND BACKUP FACILITIESYES / NO.....

IS THE TENDER 100% TO SPECIFICATIONYES / NO.....

If the answer is NO, provide reasons for the deviation from the specification.

DATE.....
TENDERER.....

SIGNATURE OF

COMPANY STAMP