TENDER DOCUMENT GOODS AND SERVICES		CITY OF CAPE TOWN ISIXEKO SASEKAPA STAD KAAPSTAD
SUPPLY CHAIN MANAGEMENT		
SCM - 542	Approved by Branch Manager: February 2024	Version: 10

TENDER NO	:	**310G/2024/25**
TENDER DESCRIPTION	:	**MANUFACTURE, TESTING, SUPPLY AND DELIVERY OF DISTRIBUTION TRANSFORMERS, POLE MOUNTED TRANSFORMERS, MINIATURE SUBSTATIONS AND ACCESSORIES**
CONTRACT PERIOD	:	**A PERIOD NOT EXCEEDING 36 MONTHS FROM DATE OF COMMENCEMENT OF CONTRACT**

CLOSING DATE	**14 July 2025**
CLOSING TIME	**10:00 am**
TENDER BOX NUMBER	**216**
TENDER FEE	**R200**

Non – refundable tender fee payable to the City of Cape Town (CCT) for a hard copy of the tender document. This fee is not applicable to website downloads of the tender document**.**

TENDERER	
NAME of Company/Close Corporation or Partnership / Joint Venture/ Consortium or Sole Proprietor /Individual (hereinafter the "Tenderer")	
TRADING AS (if different from above)	
Registration number of Tenderer	
Physical address and chosen domicilium citandi et executandi of Tenderer	

NATURE OF TENDER OFFER (please indicate below)	
Main Offer (see clause 2.2.11.1)	
Alternative Offer (see clause 2.2.11.1)	

TENDER SERIAL NO.:	
SIGNATURES OF CCT OFFICIALS AT TENDER OPENING	
1	
2	
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THE TENDER

T.1 GENERAL TENDER INFORMATION

TENDER ADVERTISED	:	**06 June 2025**
SITE VISIT/CLARIFICATION MEETING	:	Time: **11h00 to 13h00** on Date: **25 June 2025** (Not compulsory, but strongly recommended)
VENUE FOR SITE VISIT/CLARIFICATION MEETING	:	Ms Teams Meeting – Refer below for the link to the meeting: - https://teams.microsoft.com/l/meetup-join/19%3ameeting_MDUxZmQ3MTktYjBiNC00YWIzLWJlZjUtNmUwM2MzMzBmMmJj%40thread.v2/0?context=%7b%22Tid%22%3a%22ff731495-b3c8-44b3-93f8-6fca8fc5a699%22%2c%22Oid%22%3a%223a16ed4b-baac-40d6-98ab-8b23175b897b%22%7d **Meeting ID**: 326 327 782 655 5 **Passcode:** fo7XN3dM
TENDER BOX & ADDRESS	:	**Tender Box as per front cover** at the **Tender & Quotation Boxes Office**, 2nd Floor (Concourse Level), Civic Centre, 12 Hertzog Boulevard, Cape Town. The Tender Document (which includes the Form of Offer and Acceptance) completed and signed in all respects, plus any additional supporting documents required, must be submitted in a sealed envelope with the name and address of the tenderer, the endorsement "**TENDER NO. DP-8213/2023/24: - TENDER DESCRIPTION: MANUFACTURE, TESTING, SUPPLY AND DELIVERY OF DISTRIBUTION TRANSFORMERS, POLE MOUNTED TRANSFORMERS, MINIATURE SUBSTATIONS AND ACCESSORIES",** the tender box number. and the closing date indicated on the envelope. The sealed envelope must be inserted into the appropriate official tender box before closing time. If the tender offer is too large to fit into the abovementioned box or the box is full, please enquire at the public counter (Tender Distribution Office) for alternative instructions. It remains the tenderer's responsibility to ensure that the tender is placed in either the original box or as alternatively instructed
CCT TENDER REPRESENTATIVE Email	:	SCM.Tenders23@capetown.gov.za

TENDERERS MUST NOTE THAT WHEREVER THIS DOCUMENT REFERS TO ANY PARTICULAR TRADE MARK, NAME, PATENT, DESIGN, TYPE, SPECIFIC ORIGIN OR PRODUCER, SUCH REFERENCE SHALL BE DEEMED TO BE ACCOMPANIED BY THE WORDS "OR EQUIVALENT"

T.2 CONDITIONS OF TENDER

2.1. General

2.1.1. Actions

2.1.1.1. The City of Cape Town (hereafter referred to as the "CCT") and each tenderer submitting a tender offer (hereinafter referred to as the "tenderer" or the "supplier") shall comply with item T.2 of this Tender Document Goods and Services (hereinafter referred to as these "Conditions of Tender"). The tenderer and the CCT shall collectively hereinafter be referred to as the "Parties" and individually a "Party"). In their dealings with each other, the Parties shall discharge their duties and obligations as set out in these Conditions of Tender, timeously and with integrity, and behave equitably, honestly and transparently, and shall comply with all legal obligations imposed on the Parties herein and in accordance with all applicable laws.

The Parties agree that this Tender Document Goods and Services (hereinafter referred to as the" Tender" / "Tender Document"), its evaluation and acceptance and any resulting contract shall also be subject to the CCT's Supply Chain Management Policy ('SCM Policy') that was applicable on the date the bid was advertised and as amended from time to time. If the CCT adopts a new SCM Policy which contemplates that any clause therein would apply to the Contract emanating from this tender (hereinafter referred to as the "Contract"), such clause shall also be applicable to that Contract. Please refer to this document contained on the CCT's website.

Abuse of the supply chain management system is not permitted and may result, inter alia, (1) in the tender being rejected; (2) cancellation of the contract; (3) restriction of the supplier, and/or (4) the exercise by the CCT of any other remedies available to it as provided for in the SCM Policy and/or the Contract and/or this tender and/or any applicable laws .

2.1.1.2. The CCT, the tenderer and their agents and employees involved in the tender process shall avoid conflicts of interest and where a conflict of interest is perceived or known, declare any such conflict of interest, indicating the nature of such conflict. Tenderers shall declare any potential conflict of interest in their tender submissions. Employees, agents and advisors of the CCT shall declare any conflict of interest to the CCT at the start of any deliberations relating to the procurement process or as soon as they become aware of such conflict and abstain from any decisions where such conflict exists or recuse themselves from the procurement process, as appropriate.

2.1.1.3. The CCT shall not seek, and a tenderer shall not submit a tender, without having a firm intention and capacity to proceed with the contract.

2.1.2. Interpretation

2.1.2.1. The additional requirements contained in Annexure F to the contract (hereinafter referred to as the "returnable documents" / "Returnable Schedules") are part of these Conditions of Tender and are specifically hereby incorporated into these Conditions of Tender.

2.1.2.2. These Conditions of Tender and returnable Documents which are required for CCT's tender evaluation purposes herein, shall form part of the Contract arising from the CCT's corresponding invitation to tender.

2.1.3. Communication during tender process

2.1.3.1. Verbal or any other form of communication, from the CCT, its employees, agents or advisors during site visits/clarification meetings or at any other time prior to the award of the Contract, will not be regarded as binding on the CCT, unless communicated by the CCT in writing to suppliers / tenderers by its Director: Supply Chain Management or his nominee. Similarly, any communication of the tenderer / supplier that is not reduced to writing by the tenderer / supplier, its employees, agents or advisors, shall not be regarded as binding on the CCT, unless communicated to the CCT in writing by the suppliers / tenderers, or their duly authorised representatives.

2.1.4. The CCT's right to accept or reject any tender offer

2.1.4.1. The CCT may accept or reject any tender offer and may cancel the corresponding tender process or reject all tender offers at any time before the formation of a contract. The CCT may, prior to the award of the tender, cancel a tender if:

2.1.4.1.1 due to changed circumstances, there is no longer a need for the services, works or goods requested; or

2.1.4.1.2 funds are no longer available to cover the total envisaged expenditure; or

2.1.4.1.3 no acceptable tenders are received;

2.1.4.1.4 there is a material irregularity in the tender process; or

2.1.4.1.5 the Parties are unable to negotiate market related pricing.

2.1.4.2. The CCT shall not accept or incur any liability to a tenderer for such cancellation or rejection, but will give written reasons for such action upon receiving a written request to do so.

2.1.5. Procurement procedures

2.1.5.1. General

Unless otherwise stated in the tender conditions, a contract will be concluded with the tenderer who scores the highest number of tender adjudication points.

Tender Items A1 to A7, B1 to B10, C1 to C12, D1 to D8, E1 to E25, F3 to F11, will be competitively evaluated per item and tenderers may tender for any of these items.

The CCT intends to appoint two tenderers (the highest ranked tenderer ("*the winner*") and in addition a of one "*alternative tenderer*") for the allocation of work per item. If insufficient responsive bids are received, the CCT reserves the right to appoint fewer tenderers, or not to appoint any tenderers at all.

Suppliers, once appointed and subject to operational requirements, will be invited to deliver the goods or services on a "per item" basis, whereby the order will always be offered and, if accepted, allocated to the highest ranked tenderer ("the winner"), and only if he refuses will the work be offered to the alternative tenderers.

The contract period shall be for a period of 36 (thirty six) months from the commencement date of the contract.

Tenderers are to comply with the following requirements with respect to pricing for items that are inter-related:

All Tenderers offering any of Items B1 to B10 and Items E1 to E25 shall also price for gland plate and gland cover plate items, items F3 to F9.

All Tenderers offering any of Items C1 to C12 or D1 to D8 shall also price for RMU Training, Item F1, Transformer design Training, F2, LV Jumpers and Suitable Jumper Lugs, items F10 to F11.

2.1.5.2. Proposal procedure using the two stage-system

A two-stage system will not be followed

2.1.5.3. Nomination of Standby Bidder

"Standby Bidder" means a bidder, identified by the CCT at the time of awarding a bid that will be considered for award should the contract be terminated for any reason whatsoever. In the event that a contract is terminated during the execution thereof, the CCT may consider the award of the contract, or non-award, to the Standby Bidder in terms of the procedures included its SCM Policy, as amended from time to time.

2.1.6 Objections, complaints, queries and disputes/ Appeals in terms of Section 62 of the Systems Act/ Access to court

2.1.5.4. Disputes, objections, complaints and queries

In terms of Regulations 49 and 50 of the Local Government: Municipal Finance Management Act, 56 of 2003 Municipal Supply Chain Management Regulations (Board Notice 868 of 2005):

a) Persons aggrieved by decisions or actions taken by the CCT in the implementation of its supply chain management system, may lodge within 14 days of the decision or action, a written objection or complaint or query or dispute against the decision or action.

2.1.5.5. Appeals

a) In terms of Section 62 of the Local Government: Municipal Systems Act, 32 of 2000 a person whose rights are affected by a decision taken by the CCT, may appeal against that decision by giving written notice of the appeal and reasons to the City Manager within 21 days of the date of the notification of the decision.

b) An appeal must contain the following:
   i. Must be in writing
   ii. It must set out the reasons for the appeal
   iii. It must state in which way the Appellant's rights were affected by the decision;
   iv. It must state the remedy sought; and
   v. It must be accompanied with a copy of the notification advising the person of the decision

c) The relevant CCT appeal authority must consider the consider the appeal and **may confirm, vary or revoke** the decision that has been appealed, but no such revocation of a decision may detract from any rights that may have accrued as a result of the decision.

2.1.5.6. Right to approach the courts and rights in terms of Promotion of Administrative Justice Act, 3 of 2000 and Promotion of Access to Information Act, 2 of 2000

The sub- clauses above do not influence any affected person's rights to approach the High Court at any time or its rights in terms of the Promotion of Administrative Justice Act (PAJA) and Promotion of Access to Information Act (PAIA).

2.1.5.7. All requests referring to sub clauses 2.1.6.1 and 2.1.6.2 must be submitted in writing to:

The City Manager - C/o the Manager: Legal Compliance Unit, Legal Services Department, Office of the City Manager

Via hand delivery at: 20th Floor, Tower Block, 12 Hertzog Boulevard, Cape Town 8001

Via post at: Private Bag X918, Cape Town, 8000

Via email at: MSA.Appeals@capetown.gov.za

2.1.5.8. All requests referring to clause 2.1.6.3 must be submitted in writing to:

The City Manager - C/o the Manager: Access to Information Unit, Legal Service Department, Office of the City Manager

Via hand delivery at: 20th Floor, Tower Block, 12 Hertzog Boulevard, Cape Town 8001

Via post at: Private Bag X918, Cape Town, 8000

Via email at: Access2info.Act@capetown.gov.za

2.1.5.9. The minimum standards regarding accessing and 'processing' of any personal information belonging to another in terms of Protection of Personal Information Act, 2013 (POPIA).

For purposes of this clause 2.1.6.6, the contract and these Conditions of Tender, the terms "data subject", "Personal Information" and "Processing" shall have the meaning as set out in section 1 of POPIA, and "Process" shall have the corresponding meaning.

The CCT, its employees, representatives and sub-contractors may, from time to time, Process the tenderer's and/or its employees', representatives' and/or sub-contractors' Personal Information, for purposes of, and/or relating to, the tender, the contract and these Conditions of Tender, for research purposes, and/or as otherwise may be envisaged in the CCT's Privacy Notice and/or in relation to the CCT's Supply Chain Management Policy or as may be otherwise permitted by law. This includes the Processing of the latter Personal Information by the CCT's due diligence assurance provider, professional advisors and the Appeal Authority as applicable. The CCT's justification for the processing of such aforesaid Personal Information is based on section 11(1)(b) of POPIA, i.e., in terms of which the CCT's Processing of the said Personal Information is necessary to carry out actions for the conclusion and/or performance of the contract, to which the applicable data subject (envisaged in this clause 2.1.6.6 above) is a party.

All requests relating to data protection must be submitted in writing to:

The City Manager - C/o the Information Officer, Office of the City Manager

Via hand delivery at: 20th Floor, Tower Block, 12 Hertzog Boulevard, Cape Town 8001

Via post at: Private Bag X9181, Cape Town, 8000

Via email at: Popia@capetown.gov.za.

2.1.5.10. Compliance to the CCTs Appeals Policy.

In terms of the CCT's Appeals Policy, a fixed upfront administration fee will be charged. In addition, a surcharge may be imposed for vexatious and frivolous or otherwise manifestly inappropriate tender related appeals.

The current approved administration fee is R300.00 and may be paid at any of the Municipal Offices or at the Civic Centre in Cape Town using the GL Data Capture Receipt attached as Annexure F.13: Appeal Application Form. Alternatively, via EFT into the CCT's NEDBANK Account: CITY OF CAPE TOWN and using Reference number: 198158966. You are required to send proof of payment when lodging your appeal.

The current surcharge for vexatious and frivolous or otherwise manifestly inappropriate tender related appeals will be calculated as ½ (Administrative cost of the tender appeal) + 0.25 %(Appellant's tender price).
Should the payment of the administration fee of R300.00 or the surcharge not be received, such fee or surcharge will be added as a Sundry Tariff to the bidder's municipal account.

In the event where the bidder does not have a Municipal account with the CCT, the fee or surcharge may be recovered in terms of the CCT's Credit Control and Debt Collection By-law, 2006 (as amended) and its Credit Control and Debt Collection Policy.

2.1.6. CCT Supplier Database Registration

Tenderers are required to be registered on the CCT Supplier Database as a service provider. Tenderers must register as such upon being requested to do so in writing and within the period contained in such a request, failing which no orders can be raised or payments processed from the resulting contract. In the case of Joint Venture partnerships this requirement will apply individually to each party of the Joint Venture.

Tenderers who wish to register on the CCT's Supplier Database may collect registration forms from the Supplier Management Unit located within the Supplier Management / Registration Office, 2nd Floor (Concourse Level), Civic Centre, 12 Hertzog Boulevard, Cape Town (Tel 021 400 9242/3/4/5). Registration forms and related information are also available on the CCT's website www.capetown.gov.za (follow the Supply Chain Management link to Supplier registration).

It is each tenderer's responsibility to keep all the information on the CCT Supplier Database updated.

2.1.7. National Treasury Web Based Central Supplier Database (CSD) Registration

Tenderers are required to be registered on the National Treasury Web Based Central Supplier Database (CSD) as a service provider. Tenderers must register as such upon being requested to do so in writing and within the period contained in such a request, failing which no orders can be raised or payments processed from the resulting contract. In the case of Joint Venture partnerships this requirement will apply individually to each party of the Joint Venture.

Tenderers who wish to register on the National Treasury Web Based Central Supplier Database (CSD) may do so via the web address **https://secure.csd.gov.za**.

It is each tenderer's responsibility to keep all the information on the National Treasury Web Based Central Supplier Database (CSD) updated.

2.2. Tenderer's obligations

2.2.1 Eligibility Criteria

2.2.1.1 Tenderers are obligated to submit a tender offer that complies in all aspects to the conditions as detailed in this tender document and the Conditions of Tender. An 'aacceptable tender must "COMPLY IN ALL" aspects with the tender, Conditions of Tender, all Specifications (i.e., item C.5 below, hereinafter the "Specifications"), pricing instructions herein and the Contract including its conditions.

2.2.1.1.1 Submit a tender offer

Only those tender submissions from which it can be established, *inter alia* that a clear, irrevocable and unambiguous offer has been made to CCT, by whom the offer has been made and what the offer constitutes, will be declared responsive.

2.2.1.1.2 Compliance with requirements of CCT SCM Policy and procedures

Only those tenders that are compliant with the requirements below will be declared responsive:

a) A completed **Details of Tenderer** to be provided (applicable schedule below to be completed);
b) A completed **Certificate of Authority for Partnerships/ Joint Ventures/ Consortiums** to be provided authorising the tender to be made and the signatory to sign the tender on the partnership /joint venture/consortium's (applicable schedule below to be completed);
c) A copy of the partnership / joint venture / consortium agreement to be provided, where applicable.
d) A completed **Declaration of Interest – State Employees** to be provided and which does not indicate any non-compliance with the legal requirements relating to state employees (applicable schedule below to be completed);
e) A completed **Declaration – Conflict of Interest and Declaration of Bidders' past Supply Chain Management Practices** to be provided and which does not indicate any conflict or past practises that renders the tender non-responsive based on the conditions contained thereon (applicable schedules below to be completed);
f) A completed **Certificate of Independent Bid Determination** to be provided and which does not indicate any non-compliance with the requirements of the schedule (applicable schedule below to be completed);
g) The tenderer (including any of its representatives, directors or members), has not been restricted in terms of abuse of the Supply Chain Management Policy,
h) The tenderer's tax matters with SARS are in order, or the tenderer is a foreign supplier that is not required to be registered for tax compliance with SARS;
i) The tenderer is not an advisor or consultant contracted with the CCT whose prior or current obligations creates any conflict of interest or unfair advantage;
j) The tenderer is not a person, advisor, corporate entity or a director of such corporate entity, who is directly or indirectly involved or associated with the bid specification committee;
k) A completed **Authorisation for the Deduction of Outstanding Amounts Owed to the CCT** to be provided and which does not indicate any details that renders the tender non-responsive based on the conditions contained thereon (applicable schedules below to be completed);
l) The tenderer (including any of its representatives, directors or members), has not been found guilty of contravening the Competition Act 89 of 1998, as amended from time to time;
m) The tenderer (including any of its representatives, directors or members), has not been found guilty on any other basis listed in the Supply Chain Management Policy.

2.2.1.1.3 Compulsory clarification meeting

Not Applicable

2.2.1.1.4 Minimum score for functionality

Not applicable

2.2.1.1.5 Provision of samples

Not applicable

2.2.1.1.6 Compliance with the Specification

In order to be declared responsive, the tenderer must comply fully with the specifications outlined in the tender documents. The tenderer's attention is specifically drawn to the following sections of the specifications but not limited to:

- Section 5 : Pole and ground-mounted distribution transformers and miniature substations,
- Section 9 : Particulars, and
- Section 13.2 : Type Tests

The tenderer shall ensure full compliance with the Type Test requirements for miniature substations and transformers as specified in SANS 780:2021 (edition 5.1), including, but not limited to, internal arc classification for MV compartments, short circuit withstand, lightning impulse, temperature rise, ingress protection (IP) tests, and any other relevant tests prescribed in the standard.

Tenderers are responsible for referring to and complying with the latest edition of SANS 780:2021 (edition 5.1) and any applicable referenced IEC standards.

In addition to the above, the tenderer is required demonstrate compliance with the full extent of the technical specifications. In order to be evaluated for compliance with the technical specifications, the tenderer must complete Schedule F.13. It is the responsibility of the tenderer to fully and accurately complete this schedule.

Any tender submissions that are found to be materially non-compliant to the Specification for one or more of the items tendered in accordance with 2.3.7 of the Conditions of Tender, and following any necessary clarification in accordance with 2.3.9 the Conditions of Tender, shall be declared nonresponsive for the respective items.

2.2.2 Cost of tendering

The CCT will not be liable for any costs incurred in the preparation and submission of a tender offer, including the costs of any testing necessary to demonstrate that aspects of the offer complies with requirements.

2.2.3 Check documents

The documents issued by the CCT for the purpose of a tender offer are listed in the index of this tender document.

Before submission of any tender, the tenderer should check the number of pages, and if any are found to be missing or duplicated, or the figures or writing is indistinct, or if the Price Schedule contains any obvious errors, the tenderer must apply to the CCT at once to have the same rectified.

2.2.4 Confidentiality and copyright of documents

The tenderer shall treat as strictly confidential all matters arising in connection with the tender. Use and copy the documents issued by the CCT only for the purpose of preparing and submitting a tender offer in response to the invitation.

2.2.5 Reference documents

The tenderer shall obtain, as necessary for submitting a tender offer, copies of the latest versions of standards, specifications, Conditions of Contract and other publications, which are not attached but which are incorporated into the tender document(s) by reference.

2.2.6 Acknowledge and comply with notices

The tenderer shall acknowledge receipt of notices to the tender documents, which the CCT may issue, and shall fully comply with all instructions issued in the said notices, and if necessary, apply for an extension of the closing time stated on the front page of the tender document, in order to take the notices into account. Notwithstanding any requests for confirmation of receipt of the said notices issued, the tenderer shall be deemed to have received such notices if the CCT can show proof of transmission thereof via electronic mail, facsimile, or registered post or other lawful means.

2.2.7 Clarification meeting

The tenderer shall attend, where required, a clarification meeting at which tenderers may familiarise themselves with aspects of the proposed work, services or supply and pose questions. Details of the meeting(s) are stated in the General Tender Information (i.e., in item T.1 above).

Tenderers should be represented at the site visit/clarification meeting by a duly authorised person who is suitably qualified and experienced to comprehend the implications of the work involved.

2.2.8 Seek clarification

The tenderer shall request clarification of the tender documents, if necessary, by notifying the CCT at least one week before the closing time stated in the General Tender Information (i.e., in item T.1 above), where possible.

2.2.9 Pricing the tender offer

2.2.9.1 The tenderer shall comply with all pricing instructions as stated on the Price Schedule.

2.2.10 Alterations to documents

The tenderer shall not make any alterations or additions to the tender documents, except to comply with instructions issued by the CCT in writing, or necessary to correct errors made by the tenderer. All signatories to the tender offer shall initial all such alterations.

2.2.11 Alternative tender offers

2.2.11.1 Unless otherwise stated in the Conditions of Tender, the tenderers may submit alternative tender offers only if a main tender offer, strictly in accordance with all the requirements of the tender documents, is also submitted.

If a tenderer wishes to submit an alternative tender offer, he/she/it shall do so as a separate offer on a complete set of tender documents. The alternative tender offer shall be submitted in a separate sealed envelope clearly marked “Alternative Tender” in order to distinguish it from the main tender offer.

Only the alternative of the highest ranked acceptable main tender offer (that is, submitted by the same tenderer) will be considered, and if appropriate, recommended for award.

Alternative tender offers of any but the highest ranked main tender offer will not be considered.

An alternative tender offer to the highest ranked acceptable main tender offer that is priced higher than the main tender offer may be recommended for award, provided that the ranking of the alternative tender offer is higher than the ranking of the next ranked acceptable main tender offer.

The CCT will not be bound to consider alternative tenders and shall have sole discretion in this regard.

In the event that the alternative is accepted, the tenderer warrants that the alternative offer complies in all respects with the CCT’s standards and requirements as set out in the tender document.

2.2.11.2 Acceptance of an alternative tender offer by the CCT may be based only on the criteria stated in the Conditions of Tender or applicable criteria otherwise acceptable to the CCT.

2.2.12 Submitting a tender offer

2.2.12.1 The tenderer is required to submit one tender offer only on the original tender documents as issued by the CCT, either as a single tendering entity or as a member in a joint venture to provide the whole of the works, services or supply identified in the Conditions of Contract and described in the Specifications. Only those tenders submitted on the tender documents as issued by the CCT together with all Tender Returnable Documents duly completed and signed will be declared responsive.

2.2.12.2 The tenderer shall return the entire tender document to the CCT after completing it in its entirety, either electronically (if they were issued in electronic format) or by writing legibly in non-erasable ink.

2.2.12.3 The tenderer shall sign the original tender offer where required in terms of the Conditions of Tender. The tender shall be signed by a person duly authorised by the tenderer to do so. Tenders submitted by joint ventures of two or more firms shall be accompanied by the document of formation / founding document of the joint venture or any other document signed by all Parties, in which is defined precisely the conditions under which the joint venture will function, its period of duration, the persons authorised to represent and obligate it, the participation of the several firms forming the joint venture, and any other information necessary to permit a full appraisal of its functioning. Signatories for tenderers proposing to contract as joint ventures shall state which of the signatories is the lead partner.

2.2.12.4 Where a two-envelope system is required in terms of the Conditions of Tender, place and seal the returnable documents listed in the Conditions of Tender in an envelope marked “financial proposal” and place the remaining returnable documents in an envelope marked “technical proposal”. Each envelope shall state on the outside the CCT’s address and identification details stated in the General Tender Information (i.e., item T.1 above), as well as the tenderer's name and contact address.

2.2.12.5 The tenderer shall seal the original tender offer and copy packages together in an outer package that states on the outside only the CCT's address and identification details as stated in the General Tender Information. . If it is not possible to submit the original tender and the required copies (see 2.2.12.3) in a single envelope, then the tenderer must seal the original and each copy of the tender offer as separate packages marking the packages as “ORIGINAL” and “COPY” in addition to the aforementioned tender submission details.

2.2.12.6 The CCT shall not assume any responsibility for the misplacement or premature opening of the tender offer if the outer package is not sealed and marked as stated.

2.2.12.7 Tender offers submitted by facsimile or e-mail will be rejected by the CCT, unless stated otherwise in the Conditions of Tender.

2.2.12.8 By signing the offer part of the Form of Offer (**Section 5, Part A hereto**) the tenderer warrants and agrees that all information provided in the tender submission is true and correct.

2.2.12.9 Tenderers shall properly deposit its bid in the designated tender box (as detailed on the front page of this tender document) on or before the closing date and before the closing time, in the relevant tender box at the Tender & Quotation Boxes Office situated on the 2nd floor, Concourse Level, Civic Centre, 12 Hertzog Boulevard, Cape Town. If the tender submission is too large to fit in the allocated box, please enquire at the public counter for assistance.

2.2.12.10 The tenderer must record and reference all information submitted contained in other documents for example cover letters, brochures, catalogues, etc. in the Returnable Schedule titled **List of Other Documents Attached by Tenderer**.

2.2.13 Information and data to be completed in all respects

Tender offers, which do not provide all the data or information requested completely and in the form required, may be regarded by the CCT as non-responsive.

2.2.14 Closing time

2.2.14.1 The tenderer shall ensure that the CCT receives the tender offer, together with all applicable documents specified herein, at the address specified in the General Tender Information herein prior to the closing time stated on the front page of the tender document.

2.2.14.2 If the CCT extends the closing time stated on the front page of the tender document for any reason, the requirements of these Conditions of Tender apply equally to the extended deadline.

2.2.14.3 The CCT shall not consider tenders that are received after the closing date and time for such a tender (late tenders).

2.2.15 Tender offer validity and withdrawal of tenders

2.2.15.1 The tenderer shall warrant that the tender offer(s) remains valid, irrevocable and open for acceptance by the CCT at any time for a period of 120 days after the closing date stated on the front page of the tender document.

2.2.15.2 Notwithstanding the period stated in clause 2.2.15.1 above, bids shall remain valid for acceptance for a period of twelve (12) months after the expiry of the original validity period, unless the CCT is notified in writing of anything to the contrary by the bidder. The validity of bids may be further extended by a period of not more than six months subject to mutual agreement by the parties, administrative processes and upon approval by the City Manager, unless the required extension is as a result of an appeal process or court ruling.

In circumstances where the validity period of a tender has expired, and the tender has not been awarded, the tender process is considered “completed”, despite there being no decision (award or cancellation) made. This anomaly does not fall under any of the listed grounds of cancellation and should be treated as a "non-award". A “non award” is supported as a recommendation to the CCT’s Bod Adjudication Committee (“BAC”) for noting.

2.2.15.3 A tenderer may request in writing, after the closing date, that its tender offer be withdrawn. Such withdrawal will be permitted or refused at the sole discretion of the CCT after consideration of the reasons for the withdrawal, which shall be fully set out by the tenderer in such written request for withdrawal. Should the tender offer be withdrawn in contravention hereof, the tenderer agrees that:

a) it shall be liable to the CCT for any additional expense incurred or losses suffered by the CCT in having either to accept another tender or, if new tenders have to be invited, the additional expenses incurred or losses suffered by the invitation of new tenders and the subsequent acceptance of any other tender;

b) the CCT shall also have the right to recover such additional expenses or losses by set-off against monies which may be due or become due to the tenderer under this or any other tender or contract or against any guarantee or deposit that may have been furnished by the tenderer or on its behalf for the due fulfilment of this or any other tender or contract. Pending the ascertainment of the amount of such additional expenses or losses, the CCT shall be entitled to retain such monies, guarantee or deposit as security for any such expenses or loss, without prejudice to the CCT’s other rights and/or remedies available to it in accordance with any applicable laws.

2.2.16 Clarification of tender offer, or additional information, after submission

Tenderers shall promptly provide clarification of its tender offer, or additional information, in response to a written request to do so from the CCT during the evaluation of tender offers within the time period stated in such request. No change in the competitive position of tenderers or substance of the tender offer is sought, offered, or permitted.

Note: This clause does not preclude the negotiation of the final terms of the contract with a preferred tenderer following a competitive selection process, should the CCT elect to do so.

Failure, or refusal, to provide such clarification or additional information within the time for submission stated in the CCT’s written request may render the tender non-responsive.

2.2.17 Provide other material

2.2.17.1 Tenderer’s shall promptly provide, upon request by the CCT, any other material that has a bearing on the tender offer, the tenderer’s commercial position (including joint venture agreements), preferencing arrangements, or samples of materials, considered necessary by the CCT for the purpose of the evaluation of the tender. Should the tenderer not provide the material, or a satisfactory reason as to why it cannot be provided, by the time for submission stated in the CCT’s request, the CCT may regard the tender offer as non-responsive.

2.2.17.2 The tenderer shall provide, on written request by the CCT, where the transaction value inclusive of VAT **exceeds R 10 million**:

a) audited annual financial statement for the past 3 years, or for the period since establishment if established during the past 3 years, if required by law to prepare annual financial statements for auditing.
b) a certificate signed by the tenderer certifying that the tenderer has no undisputed commitments for municipal services towards a municipality or other service provider in respect of which payment is overdue for more than 30 days.
c) particulars of any contracts awarded to the tenderer by an organ of state during the past five

years, including particulars of any material non-compliance or dispute concerning the execution of such contract.

d) a statement indicating whether any portion of the goods or services are expected to be sourced from outside the Republic, and, if so, what portion and whether any portion of payment from the municipality or municipal entity is expected to be transferred out of the Republic.

Each entity to a Consortium/Joint Venture bid shall submit separate certificates/statements in the above regard.

2.2.17.3 Tenderers shall be required to undertake to fully cooperate with the CCT's external service provider appointed to perform a due diligence review and risk assessment upon receipt of such written instruction from the CCT.

2.2.18 Samples, Inspections, tests and analysis

Tenderers shall provide access during working hours to premises for inspections, tests and analysis as provided for in the Conditions of Tender or Specifications.

If the Specifications requires the tenderer to provide samples, these shall be provided strictly in accordance with the instructions set out in the Specification.

If such samples are not submitted as required in the bid documents or within any further time stipulated by the CCT in writing, then the bid concerned may be declared non-responsive.

The samples provided by all successful bidders will be retained by the CCT for the duration of any subsequent contract. Bidders are to note that samples are requested for testing purposes therefore samples submitted to the CCT may not in all instances be returned in the same state of supply and in other instances may not be returned at all. Unsuccessful bidders will be advised by the Project Manager or dedicated CCT Official to collect their samples, save in the aforementioned instances where the samples would not be returned.

2.2.19 Certificates

The tenderer must provide the CCT with all certificates as stated below:

2.2.19.1. Preference Points for Specific Goals

In order to qualify for preference points for HDI and/or Specific Goals, it is the responsibility of the tenderer to submit documentary proof (Company registration certification, Central Supplier Database report, BBBEE certificate, Proof of Disability, Financial Statements, commissioned sworn affidavits, etc.) in support of tenderer claims for such preference for that specific goal.

Tenderers are further referred to the content of the Preference Schedule for the full terms and conditions applicable to the awarding of preference points.

2.2.19.2 Evidence of tax compliance

Tenderers shall be registered with the South African Revenue Service (SARS) and their tax affairs must be in order and they must be tax compliant subject to the requirements of clause 2.2.1.1.2.h. In this regard, it is the responsibility of the Tenderer to submit evidence in the form of a valid Tax Compliance Status PIN issued by SARS to the CCT at the Supplier Management Unit located within the Supplier Management / Registration Office, 2nd Floor (Concourse Level), Civic Centre, 12 Hertzog Boulevard, Cape Town (Tel 021 400 9242/3/4/5), or included with this tender. The tenderer must record its Tax Compliance Status PIN number on the **Details of Tenderer** pages of the tender submission.

Each party to a Consortium/Joint Venture shall submit a separate Tax Compliance Status Pin.

Before making an award the CCT must verify the bidder's tax compliance status. Where the recommended bidder is not tax compliant, the bidder should be notified of the non-compliant status and be requested to submit to the CCT, within 7 working days, written proof from SARS that they have made arrangement to meet their outstanding tax obligations. The proof of tax compliance submitted by the bidder must be verified by the CCT via CSD or e-Filing. The CCT should reject a bid submitted by the bidder if such bidder fails to provide proof of tax compliance within the timeframe stated herein.

Only foreign suppliers who have answered “NO” to all the questions contained in the Questionnaire to Bidding Foreign Suppliers section on the **Details of Tenderer** pages of the tender submission, are not required to register for a tax compliance status with SARS.

2.2.20 Compliance with Occupational Health and Safety Act, 85 of 1993

Tenderers are to note the requirements of the Occupational Health and Safety Act, 85 of 1993. The Tenderer shall be deemed to have read and fully understood the requirements of the above Act and Regulations and to have allowed for all costs in compliance therewith.

In this regard the Tenderer shall submit **upon written request to do so by the CCT**, a Health and Safety Plan in sufficient detail to demonstrate the necessary competencies and resources to deliver the goods or services all in accordance with the Act, Regulations and Health and Safety Specification.

2.2.21 Claims arising from submission of tender

By responding to the tender herein, the tenderer warrants that it has:

a) Inspected the Specifications and read and fully understood the Conditions of Contract.
b) Read and fully understood the whole text of the Specifications and Price Schedule and thoroughly acquainted himself with the nature of the goods or services proposed and generally of all matters which may influence the Contract.
c) visited the site(s) where delivery of the proposed goods will take place, carefully examined existing conditions, the means of access to the site(s), the conditions under which the delivery is to be made, and acquainted himself with any limitations or restrictions that may be imposed by the Municipal or other Authorities in regard to access and transport of materials, plant and equipment to and from the site(s) and made the necessary provisions for any additional costs involved thereby.
d) requested the CCT to clarify the actual requirements of anything in the Specifications and Price Schedule, the exact meaning or interpretation of which is not clearly intelligible to the Tenderer.
e) Received any notices to the tender documents which have been issued in accordance with the CCT’s Supply Chain Management Policy.

The CCT will therefore not be liable for the payment of any extra costs or claims arising from the submission of the tender.

2.3. The CCT's undertakings

2.3.1 Respond to requests from the tenderer

2.3.1.1 Unless otherwise stated in the Conditions of Tender, the CCT shall respond to a request for clarification received up to one week (where possible) before the tender closing time stated on the front page of the tender document.

2.3.1.2 The CCT's duly authorised representative for the purpose of this tender is stated on the General Tender Information page above.

2.3.2 Issue Notices

If necessary, the CCT may issue addenda in writing that may amend or amplify the tender documents to each tenderer during the period from the date the tender documents are available until one week before the tender closing time stated in the Tender Data. The CCT reserves its rights to issue addenda less than one week before the tender closing time in exceptional circumstances If, as a result a tenderer applies for an extension to the closing time stated on the front page of the tender document, the CCT may grant such extension and, shall then notify all tenderers who drew documents.

Notwithstanding any requests for confirmation of receipt of notices issued, the tenderer shall be deemed to have received such notices if the CCT can show proof of transmission thereof via electronic mail, facsimile or registered post.

2.3.3 Opening of tender submissions

2.3.3.1 Unless the two-envelope system is to be followed, CCT shall open tender submissions in the presence of tenderers' agents who choose to attend at the time and place stated in the Conditions of Tender.

Tenders will be opened immediately after the closing time for receipt of tenders as stated on the front page of the tender document, or as stated in any Notice extending the closing date and at the closing venue as stated in the General Tender Information.

2.3.3.2 Announce at the meeting held immediately after the opening of tender submissions, at the closing venue as stated in the General Tender Information, the name of each tenderer whose tender offer is opened and, where possible, the prices indicated.

2.3.3.3 Make available a record of the details announced at the tender opening meeting on the CCT's website (http://www.capetown.gov.za/en/SupplyChainManagement/Pages/default.aspx.)

2.3.4 two-envelope system

2.3.4.1 Where stated in the Conditions of Tender that a two-envelope system is to be followed, the CCT shall open only the technical proposal of tenders in the presence of tenderers' agents who choose to attend at the time and place stated in the Conditions of Tender and announce the name of each tenderer whose technical proposal is opened.

2.3.4.2 The CCT shall evaluate the quality of the technical proposals offered by tenderers, then advise tenderers who have submitted responsive technical proposals of the time and place when the financial proposals will be opened. The CCT shall open only the financial proposals of tenderers, who have submitted responsive technical proposals in accordance with the requirements as stated in the Conditions of Tender and announce the total price and any preference claimed. Return unopened financial proposals to tenderers whose technical proposals were nonresponsive.

2.3.5 non-disclosure

The CCT shall not disclose to tenderers, or to any other person not officially concerned with such processes, information relating to the evaluation and comparison of tender offers and recommendations for the award of a contract, until after the award of the contract to the successful tenderer.

2.3.6 Grounds for rejection and disqualification

The CCT shall determine whether there has been any effort by a tenderer to influence the processing of tender offers and instantly disqualify a tenderer (and his tender offer) if it is established that he engaged in corrupt or fraudulent practices.

2.3.7 Test for responsiveness

2.3.7.1 Appoint a Bid Evaluation Committee and determine after opening whether each tender offer properly received:

a) complies with the requirements of these Conditions of Tender,
b) has been properly and fully completed and signed, and
c) is responsive to the other requirements of the tender documents.

2.3.7.2 A responsive tender is one that conforms to all the terms, conditions, and specifications of the tender documents without material deviation or qualification. A material deviation or qualification is one which, in the CCT's opinion, would:

a) Detrimentally affect the scope, quality, or performance of the goods, services or supply identified in the Specifications,
b) Significantly change the CCT's or the tenderer's risks and responsibilities under the contract, or
c) affect the competitive position of other tenderers presenting responsive tenders, if it were to be rectified.

Reject a non-responsive tender offer and not allow it to be subsequently made responsive by correction or withdrawal of any material deviation or qualification.

The CCT reserves the right to accept a tender offer which does not, in the CCT’s opinion, materially and/or substantially deviate from the terms, conditions, and specifications of the tender documents.

2.3.8 Arithmetical errors, omissions and discrepancies

2.3.8.1 Check the responsive tenders for:

a) The gross misplacement of the decimal point in any unit rate.
b) Omissions made in completing the Price Schedule; or
c) Arithmetic errors in:
    i) line-item totals resulting from the product of a unit rate and a quantity in the Price Schedule; or
    ii) The summation of the prices; or
    iii) Calculation of individual rates.

2.3.8.2 The CCT must correct the arithmetical errors in the following manner:

a) Where there is a discrepancy between the amounts in words and amounts in figures, the amount in words shall govern.
b) If pricing schedules apply and there is an error in the line-item total resulting from the product of the unit rate and the quantity, the line item total shall govern and the rate shall be corrected. Where there is an obviously gross misplacement of the decimal point in the unit rate, the line-item total as tendered shall govern, and the unit rate shall be corrected.
c) Where there is an error in the total of the prices either as a result of other corrections required by this checking process or in the tenderer's addition of prices, the total of the prices shall govern, and the tenderer will be asked to revise selected item prices (and their rates if Price Schedules apply) to achieve the tendered total of the prices.

Consider the rejection of a tender offer if the tenderer does not correct or accept the correction of the arithmetical error in the manner described above.

2.3.8.3 In the event of tendered rates or lump sums being declared by the CCT to be unacceptable to it because they are not priced, either excessively low or high, or not in proper balance with other rates or lump sums, the tenderer may be required to produce evidence and advance arguments in support of the tendered rates or lump sums objected to. If, after submission of such evidence and any further evidence requested, the CCT is still not satisfied with the tendered rates or lump sums objected to, it may request the tenderer to amend these rates and lump sums along the lines indicated by it.

The tenderer will then have the option to alter and/or amend the rates and lump sums objected to and such other related amounts as are agreed on by the CCT, but this shall be done without altering the tender offer in accordance with this clause.

Should the tenderer fail to amend his tender in a manner acceptable to and within the time stated by the CCT, the CCT may declare the tender as non-responsive.

2.3.9 Clarification of a tender offer

The CCT may, after the closing date, request additional information or clarification from tenderers, in writing on any matter affecting the evaluation of the tender offer or that could give rise to ambiguity in a contract arising from the tender offer, which written request and related response shall not change or affect their competitive position or the substance of their offer. Such request may only be made in writing by the Director: Supply Chain Management using any means as appropriate.

2.3.10 Evaluation of tender offers

2.3.10.1 General

2.3.10.1.1 The CCT may reduce each responsive tender offer to a comparative price and evaluate them using the tender evaluation methods and associated evaluation criteria and weightings that are specified in the Conditions of Tender.

2.3.10.1.2 For evaluation purposes only, the effects of the relevant contract price adjustment methods will be considered in the determination of comparative prices as follows:

a) If the selected method is based on bidders supplying rates or percentages for outer years, comparative prices would be determined over the entire contract period based on such rates or percentages.
b) If the selected method is based on a formula, indices, coefficients, etc. that is the same for all bidders during the contract period, comparative prices would be the prices as tendered for year one.
c) If the selected method is based on a formula, indices, coefficients, etc. that varies between bidders, comparative prices would be determined over the entire contract period based on published indices relevant during the 12 months prior to the closing date of tenders.
d) If the selected method includes an imported content requiring rate of exchange variation, comparative prices would be determined based on the exchange rates tendered for the prices as tendered for year one. The rand equivalent of the applicable currency 14 days prior to the closing date of tender will be used (the CCT will check all quoted rates against those supplied by its own bank).
e) If the selected method is based on suppliers' price lists, comparative prices would be the prices as tendered for year one.
f) If the selected method is based on suppliers' price lists and / or rate of exchange, comparative prices would be determined as tendered for year one whilst taking into account the tendered percentage subject to rate of exchange (see sub clause (d) for details on the calculation of the rate of exchange).

2.3.10.1.3 Where the scoring of functionality forms part of a bid process, each member of the Bid Evaluation Committee must individually score functionality. The individual scores must then be interrogated and calibrated if required where there are significant discrepancies. The individual scores must then be added together and averaged to determine the final score.

2.3.10.2 Decimal places

Score financial offers, preferences and functionality, as relevant, to two decimal places.

2.3.10.3 Scoring of tenders (price and preference)

2.3.10.3.1 Points for price will be allocated in accordance with the formula set out in this clause based on the price per item / rates as set out in the **Price Schedule (C4)**:

- Based on individual items scored according to tendered price / rate and preference for each item (except where indicated in the Pricing Instructions as inter-related items).

- Based on the sum of the prices / rates in relation to the estimated quantities (where indicated in the Pricing Instructions that items are to be awarded as a basket).

2.3.10.3.2 Points for preference will be allocated in accordance with the provisions of **Preference Schedule** and the table in this clause.

2.3.10.3.3 The terms and conditions of **Preference Schedule** as it relates to preference shall apply in all respects to the tender evaluation process and any subsequent contract.

2.3.10.3.4 Applicable formula:

The 90/10 price/preference points system will be applied to the evaluation of responsive tenders above a Rand value of R50'000'000 (all applicable taxes included), whereby the order(s) will be placed with the tenderer(s) scoring the highest total number of adjudication points.

Price shall be scored as follows:

$$Ps = 90 \times \frac{(1-(Pt-Pmin))}{Pmin}$$

Where: Ps is the number of points scored for price.
Pt is the price of the tender under consideration.
Pmin is the price of the lowest responsive tender.

Preference points shall be based on the Specific Goal as per below:

Table B2: Awards above R50 mil (VAT Inclusive)

#	Specific goals allocated points	Preference Points (90/10) Above R50 mil	Evidence	Additional Guidance
	Persons, or categories of persons, historically disadvantaged- (HDI) by unfair discrimination on the basis of			
1	**Gender are women (ownership)*** *>75% - 100% women ownership: 3 points* *>50% - 75% women ownership: 2 points* *>25% - 50% women ownership: 1 point* *>0% - 25% women ownership: 0.5 point* *0% women ownership = 0 points*	**3**	▪ Company Registration Certification	▪ Issued by the Companies and Intellectual Property Commission
			▪ Central Supplier Database report	▪ Report name: CSD Registration report
2	**Race are black persons (ownership)*** *>75% - 100% black ownership: 3 points* *>50% - 75% black ownership: 2 points* *>25% - 50% black ownership: 1 point* *>0% - 25% black ownership: 0.5 point* *0% black ownership = 0 points*	**3**	▪ B-BBEE certificate. ▪	▪ South African National Accreditation System approved certificate or commissioned sworn affidavit
			▪ Company Registration Certification	▪ Issued by the Companies and Intellectual Property Commission
			▪ Central Supplier Database report	▪ Report name: CSD Registration report
3	**Disability are disabled persons (ownership)*** WHO disability guideline *>2% ownership: 1 point* *>0% - 2% ownership: 0.5 point* *0% ownership = 0 point*	**1**	▪ Proof of disability	▪ Medical certificate/ South African Revenue Services disability registration
			▪ Company Registration Certification	▪ Issued by the Companies and Intellectual Property Commission
	Reconstruction and Development Programme (RDP) as published in Government Gazette			
4	**Promotion of Micro and Small Enterprises** *Micro with a turnover up to R20million and Small with a turnover up to R80 million as per National Small Enterprise Act, 1996 (Act No.102 of 1996* *SME partnership, sub-contracting, joint venture or consortiums*	**3**	▪ B-BBEE status level of contributor;	▪ Specifically in line with the respective sector codes which the company operates, ▪ South African National Accreditation System approved certificate or commissioned sworn affidavit
			▪ South African owned enterprises;	▪ Certificate of incorporation or commissioned sworn affidavit
			▪ Financial Statement to determine annual turnover	▪ Latest financial statements (1 Year)

	Total points	**10**		

**Ownership: main tendering entity*

2.3.10.5 Risk Analysis

Notwithstanding compliance with regard to any requirements of the tender, the CCT will perform a risk analysis in respect of the following:

a) reasonableness of the financial offer
b) reasonableness of unit rates and prices
c) the tenderer's ability to fulfil its obligations in terms of the tender document, that is, that the tenderer can demonstrate that he/she possesses the necessary professional and technical qualifications, professional and technical competence, financial resources, equipment and other physical facilities, managerial capability, reliability, capacity, experience, reputation, personnel to perform the contract, etc.; the CCT reserves the right to consider a tenderer's existing contracts with the CCT in this regard
d) any other matter relating to the submitted bid, the tendering entity, matters of compliance, verification of submitted information and documents, etc.

The conclusions drawn from this risk analysis will be used by the CCT in determining the acceptability of the tender offer.

No tenderer will be recommended for an award unless the tenderer has demonstrated to the satisfaction of the CCT that he/she has the resources and skills required.

2.3.11 Negotiations with preferred tenderers

The CCT may negotiate the final terms of a contract with tenderers identified through a competitive tendering process as preferred tenderers provided that such negotiation:

a) Does not allow any preferred tenderer a second or unfair opportunity.
b) Is not to the detriment of any other tenderer; and
c) Does not lead to a higher price than the tender as submitted.

If negotiations fail to result in acceptable contract terms, the City Manager (or his delegated authority) may terminate the negotiations and cancel the tender or invite the next ranked tenderer for negotiations. The original preferred tenderer should be informed of the reasons for termination of the negotiations. If the decision is to invite the next highest ranked tenderer for negotiations, the failed earlier negotiations may not be reopened by the CCT.

Minutes of any such negotiations shall be kept for record purposes.

The provisions of this clause will be equally applicable to any invitation to negotiate with any other tenderers.

In terms of the CCT's SCM Policy, tenders must be cancelled in the event that negotiations fail to achieve a market related price with any of the three highest scoring tenderers.

2.3.12 Acceptance of tender offer

Notwithstanding any other provisions contained in the tender document, the CCT reserves the right to:

2.3.12.1 Accept a tender offer(s) which does not, in the CCT's opinion, materially and/or substantially deviate from the terms, conditions, and specifications of the tender document.

2.3.12.2 Accept the whole tender or part of a tender or any item or part of any item or items from multiple manufacturers, or to accept more than one tender (in the event of a number of items being offered), and the CCT is not obliged to accept the lowest or any tender.

2.3.12.3 Accept the tender offer(s), if in the opinion of the CCT, it does not present any material risk and only if the tenderer(s):

a) is not under restrictions, has any principals who are under restrictions, or is not currently a

supplier to whom notice has been served for abuse of the supply chain management system, preventing participation in the CCT's procurement,

b) can, as necessary and in relation to the proposed contract, demonstrate that he or she possesses the professional and technical qualifications, professional and technical competence, financial resources, equipment and other physical facilities, managerial capability, reliability, experience and reputation, expertise and the personnel, to perform the contract,

c) has the legal capacity to enter into the contract,

d) is not insolvent, in receivership, under Business Rescue as provided for in chapter 6 of the Companies Act, 2008, bankrupt or being wound up, has his affairs administered by a court or a judicial officer, has suspended his business activities, or is subject to legal proceedings in respect of any of the foregoing, complies with the legal requirements, if any, stated in the tender data, and

e) is able, in the opinion of the CCT, to perform the contract free of conflicts of interest.

If an award cannot be made in terms of anything contained herein, the CCT reserves the right to consider the next ranked tenderer(s).

2.3.12.4 The CCT reserves the right not to make an award, or revoke an award already made, where the implementation of the contract may result in reputational risk or harm to the CCT as a result of (inter alia):

a) reports of poor governance or unethical behaviour, or both.
b) association with known notorious individuals and family of notorious individuals.
c) poor performance issues, known to the CCT.
d) negative media reports, including negative social media reports.
e) adverse assurance (e.g. due diligence) report outcomes; and
f) circumstances where the relevant vendor has employed, or is directed by, anyone who was previously employed in the service of the state (as defined in clause 1.53 of the SCM Policy), where the person is or was negatively implicated in any SCM irregularity.

2.3.12.5 The CCT reserves the right to nominate an StandbyBbidder at the time when an award is made and in the event that a contract is terminated during the execution thereof, the CCT may consider the award of the contract, or non-award, to the Standby Bidder in terms of the procedures included its SCM Policy.

2.3.13 Prepare contract documents

2.3.13.1 If necessary, revise documents that shall form part of the contract and that were issued by the CCT as part of the tender documents to take account of:

a) Notices issued during the tender period,
b) Inclusion of some of the returnable documents, and
c) Other revisions agreed between the CCT and the successful tenderer.

2.3.13.2 Complete the schedule of deviations attached to the form of offer and acceptance, if any.

2.3.14 Notice to successful and unsuccessful tenderers

2.3.14.1 Before accepting the tender of the successful tenderer the CCT shall notify the successful tenderer in writing of the decision of the CCT's Bid Adjudication Committee to award the tender to the successful tenderer. No rights shall accrue to the successful tenderer in terms of this notice

2.3.14.2 The CCT shall, at the same time as notifying the successful tenderer of the Bid Adjudication Committee's decision to award the tender to the successful tenderer, also give written notice to the other tenderers informing them that they have been unsuccessful.

2.3.15 Provide written reasons for actions taken

Provide upon request written reasons to tenderers for any action that is taken in applying these Conditions of Tender but withhold information which is not in the public interest to be divulged, which is considered to prejudice the legitimate commercial interests of tenderers or might prejudice fair competition between tenderers.

TENDER DOCUMENT GOODS AND SERVICES		CITY OF CAPE TOWN ISIXEKO SASEKAPA STAD KAAPSTAD	
SUPPLY CHAIN MANAGEMENT			
SCM - 542	Approved by Branch Manager: February 2024	Version: 10	Page 22 of 80

TENDER NO	:	**310G/2024/25**
TENDER DESCRIPTION	:	**MANUFACTURE, TESTING, SUPPLY AND DELIVERY OF DISTRIBUTION TRANSFORMERS, POLE MOUNTED TRANSFORMERS, MINIATURE SUBSTATIONS AND ACCESSORIES**
CONTRACT PERIOD	:	**A PERIOD NOT EXCEEDING 36 MONTHS FROM DATE OF COMMENCEMENT OF CONTRACT**

THE CONTRACT

THE CITY OF CAPE TOWN	
A metropolitan municipality, established in terms of the Local Government: Municipal Structures Act, 117 of 1998 read with the Province of the Western Cape: Provincial Gazette 5588 dated 22 September 2000, as amended ("the Purchaser") herein represented by	
AUTHORISED REPRESENTATIVE	

AND

SUPPLIER	
NAME of Company/Close Corporation or Partnership / Joint Venture/ Consortium or Sole Proprietor /Individual (The "Supplier" / "tenderer")	
TRADING AS (if different from above)	
REGISTRATION NUMBER	
PHYSICAL ADDRESS / CHOSEN DOMICILIUM CITANI ET EXECTUANDI OF THE SUPPLIER	
AUTHORISED REPRESENTATIVE	
CAPACITY OF AUTHORISED REPRESENTATIVE	

(HEREINAFTER COLLECTIVELY REFERRED TO AS "THE PARTIES" AND INDIVIDUALLY A "PARTY")

NATURE OF TENDER OFFER (please indicate below)	
Main Offer (see clause 2.2.11.1)	
Alternative Offer (see clause 2.2.11.1)	

C.1 DETAILS OF TENDERER/SUPPLIER

1.1 Type of Entity (Please tick one box)

☐ Individual / Sole Proprietor ☐ Close Corporation ☐ Company

☐ Partnership or Joint Venture or Consortium ☐ Trust ☐ Other:

1.2 Required Details (Please provide applicable details in full):

Name of Company / Close Corporation or Partnership / Joint Venture / Consortium or Individual /Sole Proprietor	
Trading as (if different from above	
Company / Close Corporation registration number (if applicable)	
Postal address	Postal Code _____
Physical address (Chosen Domicilium Citandi Et Executandi)	Postal Code _____
Contact details of the person duly authorised to represent the tenderer	Name: Mr/Ms _____ (Name & Surname) Telephone :(____) _____ Fax :(____) _____ Cellular Telephone: _____ E-mail address: _____
Income tax number	
VAT registration number	
SARS Tax Compliance Status PIN	
CCT Supplier Database Registration Number (See Conditions of Tender)	
National Treasury Central Supplier Database registration number (See Conditions of Tender)	
Is tenderer the accredited representative in South Africa for the Goods / Services / Works offered?	☐Yes ☐No If yes, enclose proof
Is tenderer a foreign based supplier for the Goods / Services / Works offered?	☐Yes ☐No If yes, answer the Questionnaire to Bidding Foreign Suppliers (below)
Questionnaire to Bidding Foreign Suppliers	a) Is the tenderer a resident of the Republic of South Africa or an entity registered in South Africa? ☐Yes ☐No
	b) Does the tenderer have a permanent establishment in the Republic of South Africa? ☐Yes ☐No
	c) Does the tenderer have any source of income in the Republic of South Africa? ☐Yes ☐No
	d) Is the tenderer liable in the Republic of South Africa for any form of taxation? ☐Yes ☐No
Other Required registration numbers	

C.2 FORM OF OFFER AND ACCEPTANCE

TENDER: 310G/2024/25 : MANUFACTURE, TESTING, SUPPLY AND DELIVERY OF DISTRIBUTION TRANSFORMERS, POLE MOUNTED TRANSFORMERS, MINIATURE SUBSTATIONS AND ACCESSORIES

C.2.1 Offer (To Be Completed by the Tenderer as Part of Tender Submission)

The tenderer, identified in the offer signature table below,

HEREBY AGREES THAT by signing the *Form of Offer and Acceptance,* the tenderer:

1. confirms that it has examined the documents listed in the Index (including Schedules and Annexures) and has accepted all the Conditions of Tender.

2. confirms that it has received and incorporated any and all notices issued to tenderers issued by the CCT.

3. confirms that it has satisfied itself as to the correctness and validity of the tender offer; that the price(s) and rate(s) offered cover all the goods and/or services specified in the tender documents; that the price(s) and rate(s) cover all its obligations and accepts that any mistakes regarding price(s), rate(s) and calculations will be at its own risk;

4. offers to supply all or any of the goods and/or render all or any of the services described in the tender document to the CCT in accordance with the:
   4.1 terms and conditions stipulated in this tender document.
   4.2 specifications stipulated in this tender document; and
   4.3 at the prices as set out in the **Price Schedule**.

5. accepts full responsibility for the proper execution and fulfilment of all obligations and conditions devolving on it in terms of the Contract.

SIGNED AT _____ (PLACE) ON THE _____ (DAY) OF_____ (MONTH AND YEAR)

_____
For and on behalf of the Supplier
(Duly Authorised)
Name and Surname:

_____
Witness 1 Signature
Name and Surname:

_____
Witness 2 Signature
Name and Surname:

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TENDER [INSERT TENDER NUMBER AND TENDER DESCRIPTION]

C.2.2 Acceptance (To Be Completed by the CCT)

By signing this part of this *Form of Offer and Acceptance*, the CCT accepts the tenderer's (if awarded the Supplier's) offer. In consideration thereof, the CCT shall pay the Supplier the amount due in accordance with the conditions of contract. Acceptance of the Supplier's offer shall form an agreement between the CCT and the Supplier upon the terms and conditions contained in this document.

The terms of the agreement are contained in the Contract (as defined) including drawings and documents or parts thereof, which may be incorporated by reference.

Deviations from and amendments to the documents listed in the tender data and any addenda thereto as listed in the *Tender Returnable Documents* as well as any changes to the terms of the offer agreed by the tenderer and the CCT during this process of offer and acceptance, are contained in the *Schedule of Deviations* attached to and forming part of this *Form of Offer and Acceptance*. No amendments to or deviations from said documents are valid unless contained in the *Schedule of Deviations.*

The Supplier shall within 2 (two) weeks after receiving a complete, copy of the Contract, including the *Schedule of Deviations* (if any), contact the CCT to arrange the delivery of any securities, bonds, guarantees, proof of insurance and any other documents to be provided in terms the *Special Conditions of Contract*. Failure to fulfil any of these obligations in accordance with those terms shall constitute a repudiation / breach of the agreement.

Notwithstanding anything contained herein, this agreement comes into effect on the Commencement Date, being the date upon which the Supplier confirms receipt from the CCT of 1 (one) complete, signed copy of the Contract, including amendments or deviations contained in the *Schedule of Deviations* (if any).

_____
For and on behalf of the City of Cape Town
(Duly Authorised)
Name and Surname:

_____
Witness 1 Signature
Name and Surname:

_____
Witness 2 Signature
Name and Surname:

TENDER [INSERT TENDER NUMBER AND TENDER DESCRIPTION]

C.2.3 Schedule of Deviations (To be Completed by the CCT upon Acceptance)

Notes:

1. The extent of deviations from the tender documents issued by the CCT before the tender closing date, is limited to those permitted in terms of the conditions of tender.
2. A tenderer's covering letter shall not be included in the final Contract document. Should any matter in such letter, which constitutes a deviation as aforesaid, become the subject of agreements reached during the process of offer and acceptance, the outcome of such agreement shall be recorded here.
3. Any other matter arising from the process of offer and acceptance either as a confirmation, clarification or change to the tender documents and which it is agreed by the Parties to become an obligation of the Contract, shall be recorded here.
4. Any change or addition to the tender documents arising from the above agreements and recorded here, shall form part of the Contract.

1 Subject . . . . . .

Details . . . . . .

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2 Subject . . . . . .

Details . . . . . .

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3 Subject . . . . . .

Details . . . . . .

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4 Subject . . . . . .

Details . . . . . .

. . . . . .

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By the duly authorised representatives signing this agreement, the CCT and the tenderer agree to and accept the foregoing schedule of deviations as the only deviations from and amendments to this tender document and addenda thereto as listed in the *Tender Returnable Documents*, as well as any confirmation, clarification or changes to the terms of the offer agreed by the tenderer and the CCT during this process of offer and acceptance.

It is expressly agreed that no other matter whether in writing, oral communication or implied during the period between the issue of the tender documents and the Commencement Date, shall have any meaning or effect between the Parties arising from the agreement.

TENDER [INSERT TENDER NUMBER AND TENDER DESCRIPTION]

C.2.4 Confirmation of Receipt (To be Completed by Supplier upon Acceptance)

The Supplier identified in the offer part of the Contract hereby confirms receipt from the CCT of 1 (one) complete, signed copy of the Contract, including the *Schedule of Deviations* (if any) on:

The..... (Day)

Of..... (Month)

20..... (year)

At..... (Place)

For the Supplier: Signature(s) . . . . . .
Name(s) . . . . . .
Capacity . . . . . .
Signature and name of witness:

Signature . . . . . Name . . . . . .

C.3 OCCUPATIONAL HEALTH AND SAFETY AGREEMENT

AGREEMENT MADE AND ENTERED INTO BETWEEN THE CCT (HEREINAFTER CALLED THE "CCT") AND

……..…… ,
(Supplier/Mandatary/Company/CC Name)

IN TERMS OF SECTION 37(2) OF THE OCCUPATIONAL HEALTH AND SAFETY ACT, 85 OF 1993 AS AMENDED.

I, ……..……., representing

……..…… , as an employer in its own right in its own right, do hereby undertake to ensure, as far as is reasonably practicable, that all work will be performed, and all equipment, machinery or plant used in such a manner as to comply with the provisions of the Occupational Health and Safety Act (hereafter "OHSA") and the Regulations promulgated thereunder.

I furthermore confirm that I am/we are registered with the Compensation Commissioner and that all registration and assessment monies due to the Compensation Commissioner have been fully paid or that I/We are insured with an approved licensed compensation insurer.

COID ACT Registration Number: ……..

OR Compensation Insurer: ..... Policy No.: .....

I undertake to appoint, where required, suitable competent persons, in writing, in terms of the requirements of OHSA and the Regulations and to charge him/them with the duty of ensuring that the provisions of OHSA and Regulations as well as the Council's Special Conditions of Contract, Way Leave, Lock-Out and Work Permit Procedures are adhered to as far as reasonably practicable.

I further undertake to ensure that any subcontractors employed by me will enter into an occupational health and safety agreement separately, and that such subcontractors comply with the conditions set.

I hereby declare that I have read and understand the Occupational Health and Safety Specifications contained in this tender and undertake to comply therewith at all times.

I hereby also undertake to comply with the Occupational Health and Safety Specification and Plan submitted and approved in terms thereof.

Signed at .....on the.....day of.....20….

_____ _____
Witness **Mandatary**

Signed at..... on the.....day of.....20 ....

_____ _____
Witness for and on behalf of CCT

C.4 PRICE SCHEDULE

Bid specifications may not make any reference to any particular trademark, name, patent, design, type, specific origin or producer, unless there is no other sufficiently precise or intelligible way of describing the characteristics of the work, in which case such reference must be accompanied by the words “or equivalent”.

TENDERERS MUST NOTE THAT WHEREVER THIS DOCUMENT REFERS TO ANY PARTICULAR TRADEMARK, NAME, PATENT, DESIGN, TYPE, SPECIFIC ORIGIN OR PRODUCER, SUCH REFERENCE SHALL BE DEEMED TO BE ACCOMPANIED BY THE WORDS ‘OR EQUIVALENT”

Pricing Instructions:

5.1 State the rates and prices in Rand unless instructed otherwise in the Conditions of Tender.

5.2 Include in the rates, prices, and the tendered total of the prices (if any) all duties, taxes (except Value Added Tax (VAT), and other levies payable by the successful tenderer, such duties, taxes and levies being those applicable 14 days before the closing time stated in the General Tender Information.

5.3 All prices tendered must include all expenses, disbursements and costs (e.g. transport, accommodation etc.) that may be required for the execution of the tenderer’s obligations in terms of the Contract, and shall cover the cost of all general risks, liabilities and obligations set forth or implied in the Contract as well as overhead charges and profit (in the event that the tender is successful). All prices tendered will be final and binding.

5.4 All prices shall be tendered in accordance with the units specified in this schedule.

5.5 Where a value is given in the Quantity column, a Rate and Price (the product of the Quantity and Rate) is required to be inserted in the relevant columns.

5.6 The successful tenderer is required to perform all tasks listed against each item. The tenderer must therefore tender prices/rates on all items as per the section in the Price Schedule. **An item against which no rate is/are entered, or if anything other than a rate or a nil rate (for example, a zero, a dash or the word “included” or abbreviations thereof) is entered against an item, it will also be regarded as a nil rate having been entered against that item, i.e. that there is no charge for that item. The Tenderer may be requested to clarify nil rates, or items regarded as having nil rates; and the CCT may also perform a risk analysis with regard to the reasonableness of such rates.**

5.7 Tender Items A1 to A7, B1 to B10, C1 to C12, D1 to D8, E1 to E25, F3 to F11, will be competitively evaluated per item and tenderers may tender for any of these items.

The CCT intends to appoint two tenderers (the highest ranked tenderer (“*the winner*”) and in addition a of one “*alternative tenderer*”) for the allocation of work per item. If insufficient responsive bids are received, the CCT reserves the right to appoint fewer tenderers, or not to appoint any tenderers at all.

Suppliers, once appointed and subject to operational requirements, will be invited to deliver the goods or services on a “per item” basis, whereby the order will always be offered and, if accepted, allocated to the highest ranked tenderer (“the winner”), and only if he refuses will the work be offered to the alternative tenderers.

The contract period shall be for a period of 36 (thirty-six) months from the commencement date of the contract.

5.8 **Tenderers are to comply with the following requirements with respect to pricing for items that are inter-related:**

5.8.1 All Tenderers offering any of Items B1 to B10 and Items E1 to E25 shall also price for gland plate and gland cover plate items, items F3 to F9.

5.8.2 All Tenderers offering any of Items C1 to C12 or D1 to D8 shall also price for RMU Training, Item F1, Transformer design Training, F2, LV Jumpers and Suitable Jumper Lugs, items F10 to F11.

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Item No.	Description	SAP Material Number	Unit Price delivered and off-loaded (Each) (Excluding VAT) (R)	Required Delivery Period from date of Official Purchase Order (Weeks)	Tendered Delivery Period from date of Official Purchase Order (Weeks)
	Item Category A: Pole Mounted Transformers				
A1	50 kVA, 11 kV/420 V, Dyn7, 3Ø pole mounted transformer fitted with MV bushings and LV switch compartment, as specified	59508000169668		12	
A2	100 kVA, 11 kV/420 V, Dyn7, 3Ø pole mounted transformer fitted with MV bushings and LV switch compartment, as specified	200008514		12	
A3	200 kVA, 11 kV/420 V, Dyn7, 3Ø pole mounted transformer fitted with MV bushings and LV switch compartment, as specified	200008516		12	
A4	50 kVA, 11,5 kV/420 V, Dyn11, 3Ø pole mounted transformer fitted with MV bushings and LV switch compartment, as specified	00E01138		12	
A5	100 kVA, 11,5 kV/420 V, Dyn11, 3Ø pole mounted transformer fitted with MV bushings and LV switch compartment, as specified	200008544		12	
A6	200 kVA, 11,5 kV/420 V, Dyn11, 3Ø pole mounted transformer fitted with MV bushings and LV switch compartment, as specified	200008531		12	
A7	315 kVA, 11,5 kV/420 V, Dyn11, 3Ø pole mounted transformer fitted with MV bushings and LV switch compartment, as specified	200013927		12	
	Item Category B: Distribution Transformers				
B1	200 kVA, 11,66 kV/420 V, Dyn7, 3Ø hermetically sealed distribution transformer fitted with an MV cable box and LV switch compartment, as specified	200008517		12	
B2	315 kVA, 11,66 kV/420 V, Dyn7, 3Ø hermetically sealed distribution transformer fitted with an MV cable box and LV switch compartment, as specified	200008518		12	

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Item No.	Description	SAP Material Number	Unit Price delivered and off-loaded (Each) (Excluding VAT) (R)	Required Delivery Period from date of Official Purchase Order (Weeks)	Tendered Delivery Period from date of Official Purchase Order (Weeks)
B3	500 kVA, 11,66 kV/420 V, Dyn7, 3Ø hermetically sealed distribution transformer fitted with an MV cable box and LV switch compartment, as specified	200008519		12	
B4	800 kVA, 11,66 kV/420 V, Dyn7, 3Ø hermetically sealed distribution transformer fitted with an MV cable box and LV switch compartment, as specified	200005581		12	
B5	1 000 kVA, 11,66 kV/420 V, Dyn7, 3Ø hermetically sealed distribution transformer fitted with an MV cable box and LV switch compartment, as specified	200005572		12	
B6	200 kVA, 11,5 kV/420 V, Dyn11, 3Ø hermetically sealed distribution transformer fitted with an MV cable box and LV switch compartment, as specified	200008520		12	
B7	315 kVA, 11,5 kV/420 V, Dyn11, 3Ø hermetically sealed distribution transformer fitted with an MV cable box and LV switch compartment, as specified	200008543		12	
B8	500 kVA, 11,5 kV/420 V, Dyn11, 3Ø hermetically sealed distribution transformer fitted with an MV cable box and LV switch compartment, as specified	200008542		12	
B9	800 kVA, 11,5 kV/420 V, Dyn11, 3Ø hermetically sealed distribution transformer fitted with an MV cable box and LV switch compartment, as specified	200008532		12	
B10	1 000 kVA, 11,5 kV/420 V, Dyn11, 3Ø hermetically sealed distribution transformer fitted with an MV cable box and LV switch compartment, as specified	200008546		12	

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Item No.	Description	SAP Material Number	Unit Price delivered and off-loaded (Each) (Excluding VAT) (R)	Required Delivery Period from date of Official Purchase Order (Weeks)	Tendered Delivery Period from date of Official Purchase Order (Weeks)
	Item Category C: Miniature Substations				
C1	200 kVA, 11,66 kV/420 V, Dyn7, Type C, 3Ø miniature substation fitted with MV switchgear and an LV switch compartment, as specified	200005574		4	
C2	315 kVA, 11,66 kV/420 V, Dyn7, Type C, 3Ø miniature substation fitted with MV switchgear and an LV switch compartment, as specified	200000185		8	
C3	500 kVA, 11,66 kV/420 V, Dyn7, Type C, 3Ø miniature substation fitted with MV switchgear and an LV switch compartment, as specified	200005389		35	
C4	800 kVA, 11,66 kV/420 V, Dyn7, Type C, 3Ø miniature substation fitted with MV switchgear and an LV switch compartment, as specified	200005390		40	
C5	1000 kVA, 11,66 kV/420 V, Dyn7, Type C, 3Ø miniature substation fitted with MV switchgear and an LV switch compartment, as specified	200005390		40	
C6	200 kVA, 11,5 kV/420 V, Dyn11, Type B, 3Ø miniature substation fitted with MV switchgear and an LV switch compartment, as specified	200008539		1	
C7	315 kVA, 11,5 kV/420 V, Dyn11, Type B, 3Ø miniature substation fitted with MV switchgear and an LV switch compartment, as specified	200008538		40	
C8	500 kVA, 11,5 kV/420 V, Dyn11, Type B, 3Ø miniature substation fitted with MV switchgear and an LV switch compartment, as specified	200008536		25	
C9	800 kVA, 11,5 kV/420 V, Dyn11, Type B, 3Ø miniature substation fitted with MV switchgear and an LV switch compartment, as specified	200008534		7	
C10	1 000 kVA, 11,5 kV/420 V, Dyn11, Type B, 3Ø miniature substation fitted with MV switchgear and an LV switch compartment, as specified	200008533		8	

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Item No.	Description	SAP Material Number	Unit Price delivered and off-loaded (Each) (Excluding VAT) (R)	Required Delivery Period from date of Official Purchase Order (Weeks)	Tendered Delivery Period from date of Official Purchase Order (Weeks)
C11	315 kVA, 3,3 kV/420 V, Dyn11, Type B, 3Ø miniature substation fitted with MV switchgear and an MV and LV cable box, as specified.	TBA		14	
C12	500 kVA, 420 V/11,5 kV, Dyn11, Type B, 3Ø miniature substation fitted with MV switchgear and an MV and LV cable box, as specified.	TBA		14	
	Item Category D: High Security Miniature Substations:				
D1	315 kVA, 11,66 kV/420 V, Dyn7, Type C, 3Ø high security miniature substation fitted with MV switchgear and an LV switch compartment, as specified	200019556			
D2	500 kVA, 11,66 kV/420 V, Dyn7, Type C, 3Ø high security miniature substation fitted with MV switchgear and an LV switch compartment, as specified	200019557		14	
D3	800 kVA, 11,66 kV/420 V, Dyn7, Type C, 3Ø high security miniature substation fitted with MV switchgear and an LV switch compartment, as specified	200019558		14	
D4	1000 kVA, 11,66 kV/420 V, Dyn7, Type C, 3Ø high security miniature substation fitted with MV switchgear and an LV switch compartment, as specified	200019558		14	
D5	315 kVA, 11,5 kV/420 V, Dyn11, Type B, 3Ø high security miniature substation fitted with MV switchgear and an LV switch compartment, as specified	200019559		14	
D6	500 kVA, 11,5 kV/420 V, Dyn11, Type B, 3Ø high security miniature substation fitted with MV switchgear and an LV switch compartment, as specified	200019560		14	

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Item No.	Description	SAP Material Number	Unit Price delivered and off-loaded (Each) (Excluding VAT) (R)	Required Delivery Period from date of Official Purchase Order (Weeks)	Tendered Delivery Period from date of Official Purchase Order (Weeks)
D7	800 kVA, 11,5 kV/420 V, Dyn11, Type B, 3Ø high security miniature substation fitted with MV switchgear and an LV switch compartment, as specified	200019561		14	
D8	1 000 kVA, 11,5 kV/420 V, Dyn11, Type B, 3Ø high security miniature substation fitted with MV switchgear and an LV switch compartment, as specified	200019562		14	
	Item Category E: Water and Sanitation Transformers				
E1	200 kVA, 3,3 kV/420 kV, Dyn7, 3Ø hermetically sealed distribution transformer fitted with MV and LV cable boxes, as specified	TBA		14	
E2	200 kVA, 3,3 kV/420 kV, Dyn11, 3Ø hermetically sealed distribution transformer fitted with MV and LV cable boxes, as specified	TBA		14	
E3	315 kVA, 3,3 kV/420 kV, Dyn7, 3Ø hermetically sealed distribution transformer fitted with MV and LV cable boxes, as specified	TBA		14	
E4	315 kVA, 3,3 kV/420 kV, Dyn11, 3Ø hermetically sealed distribution transformer fitted with MV and LV cable boxes, as specified	TBA		14	
E5	500 kVA, 420 kV/3,3 kV, Dyn7, 3Ø hermetically sealed distribution transformer fitted with an MV and LV cable box, as specified	TBA		14	
E6	500 kVA, 420 kV/3,3 kV, Dyn11, 3Ø hermetically sealed distribution transformer fitted with an MV and LV cable box, as specified	TBA		14	
E7	500 kVA, 3,3 kV/420 V, Dyn7, 3Ø hermetically sealed distribution transformer fitted with an MV and LV cable box, as specified	TBA		14	
E8	500 kVA, 3,3 kV/420 V, Dyn11, 3Ø hermetically sealed distribution transformer fitted with an MV and LV cable box, as specified	TBA		14	

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Item No.	Description	SAP Material Number	Unit Price delivered and off-loaded (Each) (Excluding VAT) (R)	Required Delivery Period from date of Official Purchase Order (Weeks)	Tendered Delivery Period from date of Official Purchase Order (Weeks)
E9	500 kVA, 11,5 kV/3,3 kV, Dyn11, 3Ø hermetically sealed distribution transformer fitted with an MV and LV cable box, as specified	TBA		14	
E10	500 kVA, 11,66 kV/3,3 kV, Dyn7, 3Ø hermetically sealed distribution transformer fitted with an MV and LV cable box, as specified	TBA		14	
E11	800 kVA, 420 V/3,3 kV, YNd11, 3Ø hermetically sealed distribution transformer fitted with an MV and LV cable box, as specified	TBA		14	
E12	800 kVA, 11,66 kV/3,3 kV, Dyn7, 3Ø hermetically sealed distribution transformer fitted with an MV and LV cable box, as specified	TBA		14	
E13	1000 kVA, 11,5 kV/3,3 kV, Dyn11, 3Ø hermetically sealed distribution transformer fitted with MV and LV cable boxes, as specified	TBA		14	
E14	1000 kVA, 11,66 kV/3,3 kV, Dyn7, 3Ø hermetically sealed distribution transformer fitted with MV and LV cable boxes, as specified	TBA		14	
E15	1500 kVA, 3,3 kV/420 V, Dyn11, 3Ø hermetically sealed distribution transformer fitted with an MV and LV cable box, as specified	TBA		14	
E16	1600 kVA, 420 V / 11,5 kV, Dyn11, 3Ø hermetically sealed distribution transformer fitted with an MV and LV cable box, as specified	TBA		14	
E17	2000 kVA, 420 V/11,5 kV, YNd11, 3Ø hermetically sealed distribution transformer fitted with an MV and LV cable box, as specified.	TBA		14	
E18	2000 kVA, 420 V/11,66 kV, YNd11, 3Ø hermetically sealed distribution transformer fitted with an MV and LV cable box, as specified	TBA		14	
E19	2000 kVA, 11,5 kV/420 V, Dyn11, 3Ø hermetically sealed distribution transformer fitted with an MV and LV cable box, as specified	TBA		14	

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Item No.	Description	SAP Material Number	Unit Price delivered and off-loaded (Each) (Excluding VAT) (R)	Required Delivery Period from date of Official Purchase Order (Weeks)	Tendered Delivery Period from date of Official Purchase Order (Weeks)
E20	2000 kVA, 11,5 kV/3,3 kV, Dyn11, 3Ø hermetically sealed distribution transformer fitted with MV and LV cable boxes, as specified	TBA		14	
E21	2000 kVA, 11,66 kV/420 V, Dyn7, 3Ø hermetically sealed distribution transformer fitted with an MV and LV cable box, as specified	TBA		14	
E22	2000 kVA, 11,66 kV/3,3 kV, Dyn7, 3Ø hermetically sealed distribution transformer fitted with MV and LV cable boxes, as specified	TBA		14	
E23	2500 kVA, 420 V/3,3 kV, Dyn11, 3Ø hermetically sealed distribution transformer fitted with an MV and LV cable box, as specified	TBA		14	
E24	2500 kVA, 420 kV/11,66 kV, YNd11, 3Ø hermetically sealed distribution transformer fitted with an MV and LV cable box, as specified	TBA		14	
E25	2500 kVA, 11,66 kV/690 V, Dyn7, 3Ø hermetically sealed distribution DPFC transformer fitted with an MV and LV cable box, as specified	TBA		14	
	Item Category F: Additional Items:				
F1	**Ring Main Unit (RMU) Installation, Operation, and Maintenance Training (Clause 8.10)**: A full five-working-day training intervention for 100 participants, as specified in Clause 8.10 of the Detailed Specification. The training will cover RMU installation procedures, operational best practices, routine and corrective maintenance, and safety requirements.	N/A		4	

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Item No.	Description	SAP Material Number	Unit Price delivered and off-loaded (Each) (Excluding VAT) (R)	Required Delivery Period from date of Official Purchase Order (Weeks)	Tendered Delivery Period from date of Official Purchase Order (Weeks)
F2	**Transformer Design and Harmonic Impact Training:** This module will address general transformer design principles, with a specific focus on the effects of harmonics in distributed networks. It will equip participants with the knowledge needed to understand transformer behavior under harmonic conditions and implement appropriate mitigation strategies.	N/A		4	
F3	Additional 63 mm predrilled cover plate for standard Dyn7 Distribution Transformer gland plate, as specified	200019438		4	
F4	Additional 40 mm predrilled cover plate for standard Dyn7 Distribution Transformer gland plate, as specified	200019439		4	
F5	Split gland plate assembly with blanking plates, complete as specified, for delivery to stock	200019440		4	
F6	Additional 80 mm (No 7 gland) predrilled cover plate for Distribution Transformer split gland plate, as specified	200019551		4	
F7	Additional 65 mm (No 6 gland) predrilled cover plate for Distribution Transformer split gland plate, as specified	200019552		4	
F8	Additional 55 mm (No 5 gland) predrilled cover plate for Distribution Transformer split gland plate, as specified	200019553		4	
F9	Additional 45 mm (No 4 gland) predrilled cover plate for Distribution Transformer split gland plate, as specified.	200019554		4	
F10	LV Jumper Alternative Conductor (CCAA or Al Alloy etc) per meter– (Supplied on drum)	TBA		4	
F11	Suitable LV Jumper Lugs (each)	TBA		4	

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C.5 SPECIFICATIONS (CEE 65)

DISTRIBUTION TRANSFORMERS, POLE MOUNTED TRANSFORMERS, MINIATURE SUBSTATIONS AND ACCESSORIES

1. Scope of specification

This specification provides for the manufacture, testing, supply, delivery and offloading of three-phase distribution transformers, pole mounted transformers, miniature substations and accessories.

2. Definitions

The following definitions shall apply to this specification:

2.1. Purchaser shall mean the City of Cape Town, represented by the Director: Energy, Electricity Generation and Distribution and/or such other official or officials duly authorised thereto by the Director: Energy, Electricity Generation and Distribution.

2.2. Engineer shall mean the Director: Energy, Electricity Generation and Distribution or his duly appointed representative, or a firm of Consulting Engineers or other body appointed to act on behalf of the Director: Energy, Electricity Generation and Distribution.

3. Normative References

3.1. The following documents contain provisions that, whether referenced in the text or not, constitute requirements of this specification. At the time of publication, the editions indicated were valid. All standards and specifications are subject to revision, and parties to agreements based on this specification are encouraged to investigate the possibility of applying the most recent editions of the documents listed below.

3.2. Note that the national equivalent of IEC standards is generally the same but may include specific variations to be taken into account. Information on currently valid national and international standards can be obtained from the South African Bureau of Standards.

SANS 121	Hot dipped galvanised coatings on fabricated iron and steel articles – specifications and test methods
SANS 290	Mineral insulating oils – Management of polychlorinated biphenyls (PCB)
SANS 556-1	Low voltage switchgear Part 1: Circuit Breakers
SANS 555-2	Unused uninhibited mineral insulating oils for transformers and switchgear
SANS 630	Decorative high gloss enamel paints
SANS 780	Distribution Transformers
SANS 876	Cable terminations and live conductors within air insulated enclosures (insulation co-ordination) for rated a.c. voltages of 7,2 kV and up to and including 36 kV
SANS 1029	Miniature substations for rated a.c. voltages up to and including 24 kV
SANS 1037	Standard transformer bushings
SANS 1091	National colour standard
SANS 1186-1	Symbolic Safety Signs Part 1 Standard Signs and general requirements

SANS 1339	Electric cables — Cross-linked polyethylene (XLPE) insulated cables for rated voltages 3,8/6,6 kV to 19/33 kV
SANS 1507-2	Electric cables with extruded solid dielectric insulation for fixed installations (300/500 V to 1 900/3 300 V) Part 2: Wiring Cables
SANS 1507-3	Electric cables with extruded solid dielectric insulation for fixed installations (300/500 V to 1 900/3 300 V) Part 3: PVC Distribution cables
SANS 1874	Switchgear – Metal-enclosed Ring Main Units for rated ac voltages above 1 kV and up to and including 36 kV
SANS 9001	Quality management systems – Requirements
SANS 10142-1	The wiring of premises Part 1: Low-voltage installations
SANS 60076-1	Power transformers Part 1: General
SANS 60076-5	Power transformers Part 5: Ability to withstand short circuit
SANS 60076-10	Power transformers Part 10: Determination of sound levels
SANS 60137	Insulated bushings for alternating voltages above 1 000 V
SANS 60270	High-voltage test techniques - Partial discharge measurements
SANS 60439-1	Low-voltage switchgear and controlgear assemblies' part 1: Type-tested and partially type-tested assemblies.
SANS 60529	Degree of Protection provided by Enclosures (IP Code)
SANS 60815-1	Selection and dimensioning of high-voltage insulators intended for use in polluted conditions Part 1: Definitions, information and general principles
SANS 60947-1	Low voltage switchgear and controlgear Part 1: General rules
SANS 60947-2	Low voltage switchgear and controlgear Part 2: Circuits breakers
SANS 60947-3	Low voltage switchgear and controlgear Part 3: Switches, disconnectors, switch-disconnectors and fuse-combination units
SANS 62271-213	High-voltage switchgear and control-gear - Voltage detecting and indicating system
SANS 61439-2	Low-voltage switchgear and controlgear assemblies – Part 2: Power switchgear and controlgear assemblies
SANS 62271-1	High-voltage switchgear and control-gear Part 1: Common specifications for alternating current switchgear and controlgear
SANS 62271-102	High-voltage switchgear and control-gear Part 102 – Alternating current disconnectors and earthing switches
SANS 62271-103	High-voltage switchgear and control-gear – Switches for rated voltages above 1 kV and less than 52 kV
SANS 62271-200	High-voltage switchgear and control-gear Part 200 – AC metal enclosed switchgear and control-gear for voltages above 1 kV and up to and including 52 kV
SANS 62271-202	High-voltage switchgear and control-gear Part 202 – High-voltage / low-voltage prefabricated substation

IEC 60376	Specification and acceptance of new sulphur hexafluoride
EN 50180	Bushings above 1 kV up to 36 kV and from 250 A to 1,25 kA for liquid filled transformers.
EN 50181	Plug-in type bushings above 1 kV up to 36 kV and from 250 A to 1,25 kA for equipment other than liquid filled transformers.

3.3. Reference to a particular standard or recommendation in this specification does not relieve the manufacturer of the necessity of the work complying with other relevant standards or recommendations.

3.4. Tenderers offering equipment to standards other than those mentioned above may be considered provided it is clearly indicated in which respects the equipment offered does not comply and the likely consequences of such non-compliance.

4. General

4.1. Particulars of the System

4.1.1. The equipment will be connected on the primary side to a 50 Hz, three-phase system having a fault level of 350 MVA and a nominal voltage of 11 kV (operating at 11,5 kV) or 11,66 kV, as specified, the neutral point of which is earthed either directly or through an 800 A or 1 600 A resistor.

4.1.2. The system highest voltage will be 12,5 kV.

4.1.3. The secondary (LV) side of the equipment will be connected to a three-phase 4-wire system having a nominal voltage of 231/400 V.

4.2. Service Conditions

4.2.1. The equipment shall be suitable for outdoor all-weather service at sea level. The highest ambient temperature commonly experienced is 40°C and the lowest 0°C. Relative humidity varies between 20% and 90%.

4.2.2. Equipment shall be suitable for outdoor all-weather use at sea-level and for installation in areas classified as Heavy, Type B (Coastal) pollution severity in accordance with SANS 60815-1 due to proximity to the sea and exposure to strong onshore winds.

4.3. Compliance with Regulations

4.3.1. All apparatus and materials supplied shall comply with the current requirements of the Republic of South Africa's Occupational Health and Safety Act, Act 85 of 1993 as amended, and the Regulations issued thereunder, and any regulations issued in modification or substitution thereof. In addition, they shall comply with any other requirements having the force of law to which the Purchaser is subject.

4.4. Quality, Design and Execution

4.4.1. All apparatus should comply with this Specification. Any departures from the requirements of this Specification shall be stated in Returnable Schedule 13E and may be accepted at the Engineer’s discretion.

4.4.2. No departure shall be implemented without the prior approval of the Engineer.

4.4.3. The equipment shall comply with the particulars and guarantees stated in Returnable Schedule 13B.

4.4.4. The Contractor’s quality assurance system shall be approved in terms of SANS 9001. A copy of the registration certificate shall be attached to the Tender document and the number entered in Returnable Schedule 13C. Alternative quality assurance systems may be considered but shall be to the approval of the Engineer.

4.4.5. All materials used shall be new materials and of the best quality. The material of which each part is made shall be one of those recognised as suitable for the purpose in conservative modern practice and of a class suitable for working under the conditions specified. The variations of temperature and atmospheric conditions arising under working conditions shall not cause distortion, deterioration or the setting up of undue stresses in any part nor affect the strength and suitability of the various parts for the work which they have to perform. No welding, filling or plugging of defective parts will be permitted without the sanction in writing of the Engineer.

4.4.6. Only materials with minimum temperature ratings, in air, in accordance with SANS 62271 1 shall be acceptable and all such materials shall be non-combustible.

4.4.7. The design and execution of the Work shall incorporate every practicable precaution and provision for: -

4.4.7.1. The safety of those who will operate and maintain the equipment.

4.4.7.2. The satisfactory operation of the equipment under all conditions liable to be met in service.

4.4.7.3. To facilitate inspection, maintenance and repairs.

4.4.8. Features likely to require excessive maintenance shall be carefully avoided.

4.4.9. Kiosks, cubicles and similar enclosed compartments shall be adequately ventilated to restrict condensation but shall at the same time be vermin proof.

4.4.10. Tenderers shall offer equipment of the highest possible quality to ensure highly reliable service and only proven designs; construction methods and principles will be accepted.

4.4.11. The miniature substation and transformer manufacturer shall have proven and acceptable experience in the manufacture of equipment of the type offered and shall have a service record demonstrating the reliability and quality of the equipment offered. The equipment offered shall comprise the Manufacturer's standard equipment.

5. General Equipment Requirements

5.1. Transformer Construction

5.1.1. The transformers shall be double-wound core, three phase, and oil-immersed units designed for natural (ONAN) cooling suitable for installation outdoors at unattended substations and shall comply with SANS 780:2021 (edition 5.1).

5.1.2. All transformers shall have hermetically sealed, rigid tanks and shall be sealed in an approved manner using welded closed covers. Any holes or plugs in the cover necessary to facilitate filling and vacuum / pressure testing shall finally be welded closed.

5.1.3. The expansion space above the oil shall be filled with dry nitrogen at atmospheric pressure. The volume of this expansion space shall be such that the internal tank pressure does not rise to more than 20 kPa during the temperature rise test, and should be a minimum of 15% of the volume of the oil at ambient pressure and a temperature of 20°C.

5.1.4. Transformers and miniature substations shall utilise traditional radiators with fins and headers for ONAN cooling. Transformers or miniature substations with corrugated tanks will not be accepted.

5.1.5. Unless otherwise specified, the recommended standard construction details and fittings for sealed transformers as specified in Table 5 of SANS 780:2021 (edition 5.1) shall be provided.

5.1.6. An oil level indicator gauge complying with SANS 780:2021 (edition 5.1) shall be fitted to the transformer tank.

5.1.7. In accordance with SANS 780:2021 (edition 5.1) the oil level indicator gauge shall cover the entire range between the minimum and maximum oil levels and shall be clearly marked to indicate correct oil level at 20^0C, but shall also be clearly marked to indicate the minimum acceptable service oil level.

5.1.8. Thermometer pockets are not required for free standing transformers.

5.1.9. Thermometer pockets complying with the requirements of SANS 780:2021 (edition 5.1) shall be provided in miniature substations for use with a top-oil thermoelectric temperature sensing element for shunt tripping of the ring main unit.

5.1.10. Thermometer pockets shall be situated in the LV compartment of the miniature substation unless otherwise approved by the Engineer.

5.1.11. Thermometer pockets shall be filled with transformer oil and shall be suitably sealed to prevent oil from leaking during transit.

5.2. Transformer Design Considerations for the effect of Distributed Network Harmonics

5.2.1. All miniature substation transformers and ground mounted distribution transformers shall be designed to withstand the known electrical effects of Distributed Network Harmonics (DNH) associated to distributed harmonic sources in the network.

5.2.2. The Total Harmonic Distortion (THD) is estimated to be less than 10%.

5.2.3. The known effects of DNH on transformer designs are: -

5.2.3.1. Additional heating in core and windings

5.2.3.2. Increased neutral currents due to imbalance

5.2.3.3. Voltage distortion due to non-50Hz

5.2.4. Known industry design principles that have been implemented on compact transformers designs to mitigate DNH are, but not limited to: -

5.2.4.1. Increased rating

5.2.4.2. Improved cooling systems

5.2.4.3. Higher temperature insulation material

5.2.4.4. Increased neutral conductor sizes

5.2.4.5. Electrostatic shields

5.2.4.6. Natural ester oils.

5.2.5. The manufacturer shall specify in the technical schedules what additional design considerations they have applied based on their current SANS 780:2021 (edition 5.1) design principles to mitigate the effects of the above DNH.

5.3. Ratings

5.3.1. <u>Rated Voltages</u>

5.3.1.1. The rated primary voltage of the transformers and miniature substations shall be 11,66 kV or 11,5 kV as specified for each item.

5.3.1.2. The rated no-load voltage of the LV winding of pole mounted transformers, miniature substations and distribution transformers with 420 V secondary windings shall be 420 V between phases and 242 V between each phase and neutral, as specified in SANS 780:2021 (edition 5.1).

5.3.1.3. The rated no-load voltage of the LV winding of distribution transformers with 3300 V secondary windings shall be 3300 V between phases.

5.3.1.4. The rated voltage of the LV assembly shall be equal to the no-load secondary voltage of the transformer or miniature substation.

5.3.2. <u>Rated Insulation Level</u>

5.3.2.1. The rated peak lightning impulse withstand voltage of the MV equipment shall be 95 kV and the rated short duration power frequency withstand voltage 28 kV.

5.3.2.2. The rated insulation voltage of the LV assembly shall be 1 kV, and the rated impulse withstand voltage shall be 8 kV.

5.3.3. Rated Power

5.3.3.1. The rated power of the pole mounted transformers shall be one of the following preferred values, as specified for each item:

- 50 kVA; 100 kVA; 200 kVA; 315 kVA

5.3.3.2. The rated power of the distribution transformers and miniature substations shall be one of the following preferred values, as specified for each item:

- 200 kVA; 315 kVA; 500 kVA; 800 kVA; 1000 kVA; 1500 kVA; 1600 kVA; 2000 kVA; 2500 kVA
- The overall transformer kVA rating shall be the 50Hz rating plus the non-50Hz harmonic associated losses (de-rated rating, no including harmonics). The associated power derating is estimated to be a minimum of 10% of the KVA rating due effect of harmonics.
- All associated transformer design parameters on the nameplate shall be for the derated transformer KVA rating.

5.3.4. Rated Short time withstand current

5.3.4.1. The rated short time withstand current of the transformers shall be in accordance with SANS 780:2021 (edition 5.1).

5.3.4.2. The rated short time withstand current of the main circuit of the LV assembly shall be at least equal to the prospective symmetrical short circuit current of the transformer. The duration shall be 1 s.

5.4. Internal Arc Classification

5.4.1. Miniature substations shall have a minimum internal arc classification of IAC AB 20 kA 0,5 s, in accordance with the requirements of SANS 62271-202.

5.4.2. Distribution transformers and pole mounted transformers are not required to be internal arc classified.

5.5. Vector Group

5.5.1. The transformers shall be of the Dyn7 or the Dyn11 vector group, as specified for each item excluding Water and Sanitation miniature substations and distribution transformers which may differ.

5.6. Windings

5.6.1. The transformer primary and secondary winding conductors shall each be of either copper or aluminium.

5.6.2. Aluminium foil secondary windings will be acceptable.

5.6.3. The transformers and miniature substations offered (or the acceptable “Similar Transformer” reference transformer referenced in accordance with SANS 60076-5) shall have been type tested with the same types of winding material and design as that tendered, as required in terms of SANS 60076-5.

5.6.4. Tenderers offering transformers or miniature substations with aluminium windings shall provide details in the tender submission of the particular aluminium alloy utilised and of the measures taken during fabrication to ensure that suitable aluminium-to-aluminium and aluminium-to-copper joints are made within the transformer, to prevent oxidation and galvanic corrosion during and after assembly and to ensure reliability of the winding connections over the full service life of the unit and under all specified service conditions.

5.6.5. All winding connections within the transformer tank shall be either crimped, brazed or silver soldered, and all winding connections to the transformer bushings shall utilise crimped or soldered lugs or brazed tags. All connections shall be in accordance with the accepted best practice for the metals utilised and the particular application.

5.7. Tappings

5.7.1. Each transformer shall be provided with an off circuit tapping switch and five standard tappings on the MV windings.

5.7.2. The tappings shall allow the secondary voltage to be varied from 95% to 105% in steps of 2,5%.

5.7.3. The off circuit tapping switch shall be lockable and shall be suitable for a padlock with a 6 mm diameter shackle.

5.8. Impedance

5.8.1. The transformer impedance voltage shall comply with the requirements of SANS 780:2021 (edition 5.1).

5.9. Component Losses

5.9.1. Transformers shall be standard component losses transformers as specified in SANS 780:2021 (edition 5.1).

5.9.2. Standard Loss transformers shall have component losses complying with Table 2 of SANS 780:2021. Tenderers shall note that standard component losses specified in this latest revision of SANS 780:2021 (edition 5.1) have been reduced significantly compared with earlier editions, and that these losses as specified in Table 2 of SANS 780:2021 (edition 5.1) constitute the SANS 780:2021 (edition 5.1) Standard Losses referred to in this tender document.

5.9.3. Tenderers are however referred to Clause 2.2.12.1 of the Condition of Tender and are advised that only a single tender offer per tender Item is sought from each tenderer.

5.9.4. Tenderers are also referred to Clause 2.2.11 of the Conditions of Tender relating to Alternative Tender Offers and are advised that an Alternative Tender Offer is defined as one that deviates from the specification and can only be awarded to a Tenderer whose Main Tender Offer is fully responsive and the highest ranked.

5.9.5. Evaluation shall be on the basis of the specified losses stated in SANS 780:2021 (edition 5.1) for standard loss transformers.

5.9.6. Loss Tolerances

5.9.6.1. Loss tolerances shall be as specified in SANS 780:2021 (edition 5.1).

5.10. Sound Levels

5.10.1. The transformers and miniature substations shall be designed and constructed so as to have audio sound levels complying with the requirements of SANS 780:2021 (edition 5.1) and shall be type tested in accordance with SANS 780:2021 (edition 5.1) to prove compliance with these specified sound levels.

5.10.2. In addition to the type testing, production transformers and miniature substations shall be sample tested to verify audio sound levels as laid out in Section 14 of this specification.

5.11. Mineral Insulating Oil

5.11.1. The transformers shall be filled with new (virgin) mineral insulating oil complying with SANS 555-2 but in addition having a water content of less than 10 ppm and a dielectric strength not less than 70 kV

(2,5 mm gap).

5.11.2. The mineral insulating oil shall be guaranteed free of PCB's (Polychlorinated biphenyl), and PCB free (in accordance with SANS 290) certificates shall be provided by the Tenderer.

5.11.3. The Transformer Rating Plate shall be embossed with a statement confirming that the transformer is filled with PCB free oil.

5.11.4. Batch oil test certification certifying the compliance of the oil with specified standard and the oil's PCB free status shall be provided for each unit prior to release for delivery.

5.12. General Construction Details

5.12.1. Only proven design and construction methods and principles will be acceptable.

5.12.2. All gaskets provided on the transformers shall be of approved rubber-bonded cork material.

5.12.3. All external nuts and bolts shall be manufactured from stainless steel. Care shall be taken to ensure that nuts and bolts are not over tightened such that the threads are damaged, and the nuts and bolts cannot be loosened and/or retightened.

5.12.4. External bolts shall be round head bolts unless requiring removal during transport and / or service in which case provisions shall be to the approval of the Engineer.

5.12.5. All bolts on the LV busbars and connections shall be fitted with locknuts.

5.12.6. All neutral and earth bars shall be mounted using stainless steel torque-shear bolts / nuts to prevent removal after factory installation.

5.12.7. All copper shall be tinned where connections in air are made or intended to be made.

5.12.8. Suitable drainage and ventilation holes shall be provided in accessible enclosures and compartments to minimise the possibility of condensation but shall be so positioned that no ingress of moisture is possible even when in unprotected outdoor positions. Ventilation facilities shall provide for vertical air circulation and shall prevent the formation of trapped humidity and condensation pockets in the enclosures and compartments.

5.12.9. 3CR12 to mild steel welds shall be passivated in an approved manner.

5.12.10. All external bare earth conductors shall be Copper-Clad Steel or Aluminium Alloy and shall be painted the same colour as the units.

5.12.11. All bushings shall be made from insulating material to the approval of the Engineer.

5.12.12. MV and LV cable boxes shall be earthed to the main tank.

5.13. Transformer Bushing Fitment

5.13.1. All MV and LV bushings on Miniature Substation transformers and Distribution Transformers tanks shall as far as possible be fitted and secured in such a way that the securing flanges and fasteners can be accessed, inspected and re-torqued (if necessary) without the need to open the transformer tank or access the fasteners from the interior of the tank.

5.13.2. Such inspection and verification of bushing fastener torque setting compliance shall be conducted routinely during factory acceptance testing and as required during service life as a first response to any onset of oil leaks from transformer bushing seals.

5.13.3. Bushing securing fastener torque settings in Nm shall be indelibly stencilled / painted on the transformer tank adjacent to the bushings, on the opposite side from the specified transformer terminal number markings.

5.14. Degree of Protection

5.14.1. The MV cable termination enclosures on distribution transformers and pole mounted transformers shall provide a degree of protection of at least IP 54 in accordance with SANS 60529, applicable when all enclosure covers are closed.

5.14.2. The MV compartment and the enclosure of miniature substations shall provide a degree of protection of at least IP 44 in accordance with SANS 60529, applicable when all doors are closed and the lid secured in position.

5.14.3. The LV compartments of distribution transformers, pole mounted transformers and miniature substations shall provide a degree of protection of at least IP 44 in accordance with SANS 60529, applicable when all doors are closed.

5.15. Doors and Door Locking Mechanisms

5.15.1. All doors shall be watertight and vermin proof and shall maintain the IP rating of the enclosure or compartment when in the closed position.

5.15.2. All doors shall be flush mounted (i.e. recessed and flush with the door frame) when in the closed position and shall in general be as depicted in Drawing SK 5191 Sheet 4 Rev 1, Detailed door and hinge design for the flush mounted doors shall be to the Engineer's approval.

5.15.3. All doors shall be designed and constructed in such a way as to minimise the possibility of vandalism. Gaps between the door and the adjacent miniature substation or transformer enclosure body shall be designed with the minimum mechanically acceptable clearances in order to prevent levering open of the door through the insertion of implements between the door and the enclosure.

5.15.4. The degree of security of the doors, door locking mechanisms and door hinges shall be such that they withstand a force of 1000 N when any part of the door is subjected to a pull of such force applied in accordance with SANS 1029 or an equivalent force applied by a lever inserted between the door rim and the enclosure or frame. The door shall remain firmly closed under such test conditions.

5.15.5. All doors shall be provided with means to prevent over swing when opening and a strong and robust, rigid wind stay to secure the door in the open position at a minimum angle of 90º. It shall be possible to operate all equipment with the relevant door in the open stayed position.

5.15.6. The doors, when held in the open position using the wind stay, shall be capable of withstanding the wind pressure in accordance with 5.101 of SANS 62271-202.

5.15.7. All doors shall be fitted with neoprene, or equivalent to approval, gaskets to provide a tight and durable seal to prevent ingress of contaminants and moisture and to reduce vibration and / or resonance induced noise. Doors shall exert uniform pressure at all points on the gasket when the door is closed.

5.15.8. The door frame or door of each enclosure and compartment shall have suitable design provisions to ensure that water flowing off the top of the transformer or miniature substation flows away to the side of the enclosure frame and does not rest or pool against the door gasket or gain ingress past the gasket.

5.15.9. All doors shall have internal, concealed hinges so as to reduce vulnerability to vandalism. Door hinges shall be manufactured to the Engineer's approval and shall be suitably reinforced and of sufficient strength to comply with the specified vandalism requirements.

5.15.10. All doors fitted on the miniature substations, or the LV side of the transformers shall be provided with a robust Barker Nelson 25 series (or similar) 3-point locking mechanism with padlock facilities suitable for an 8 mm shackle diameter. The 3-point locking mechanisms shall be of sufficient strength to comply with the specified vandalism requirements.

5.15.11. The vertical rods of the three-point locking mechanism shall be supported in four positions (two above and two below the central mechanism) in addition to the central mechanism so as to limit the opportunity for flexing of the rods under mechanical duress. These supports shall be positioned at the

outer end of each rod and approximately 100 mm back from the end of the rod and approximately 100 mm apart. The inner support shall have a slotted hole to allow for necessary pivoting of the rod in the plane parallel to the door.

5.15.12. Locking mechanism rods shall be stainless steel round bar of minimum diameter 10 mm.

5.15.13. In addition, all doors shall be fitted with a stainless-steel Allen key bolt type locking system using an M12 bolt with a 10 mm Allen keyed head. The Allen key locking system when in the fully screwed-in position shall obstruct the Barker Nelson locking mechanism from being opened. The Allen bolt head shall either be flush with the door when screwed in or shall be protected by a suitable welded collar.

5.15.14. Padlocks or an alternative anti-theft locking device will be supplied by others.

5.15.15. All doors shall be provided with a lock protection facility fabricated from 4 mm 3CR12 stainless steel as detailed in Drawing SK 5191 Sheet 2 Rev 2 or equivalent, to approval. The lock protection facility shall be an integral part of the door and shall be affixed to the door by a continuous weld or by the use or a minimum of 6 x M8 bolts, permanently affixed to the inner flange of the lock protector box and secured on the inner side of the door with locking nuts.

5.15.16. The lock protection facility shall be designed to prevent the use of bolt cutters, levers or heavy implements to damage the padlock or locking mechanism but shall provide good access to both the padlock and mechanism handle for normal operation.

5.15.17. The lock protection facility shall have an expanded mesh, or equivalent to approval, at the top designed such that the padlock shall be visible through the mesh. The mesh shall be at least 1,6 mm thick and the mesh grid less than 10 mm.

5.15.18. The lock protection facility shall have a hole suitable for insertion of a 10 mm Allen key to permit unobstructed operation of the Allen key bolt.

5.15.19. The door handle shall be in the horizontal position when closed and padlocked so as to place the padlock as far as possible from the opening at the bottom of the lock protection facility.

5.15.20. Alternative tamper-proof locking mechanisms/systems may be offered and will be subject to approval of the Engineer.

5.15.21. All doors shall be earthed to the enclosure or compartment wall adjacent to the hinge by means of an approved earthing strap. Welded threaded studs shall be provided on the door and the enclosure or compartment for the purpose of securing the earth strap.

5.15.22. LV compartment doors for Pole and Ground-mounted Distribution Transformers shall be hinged on the right-hand side such that the door opens to the right.

5.15.23. LV compartment doors for Type C Miniature Substations shall be hinged on the left-hand side such that the door opens to the left.

5.16. Painting and Protection Against Corrosion

5.16.1. Painting and corrosion protection of interior and exterior surfaces shall comply with the requirements of SANS 780:2021 (edition 5.1). The following additional requirements are to be complied with for exterior surfaces.

5.16.2. All 3CR12 stainless steel shall be abrasive blasted and then passivated prior to painting in accordance with SANS 780:2021 (edition 5.1).

5.16.3. All mild steel components (excluding the radiators of transformers and miniature substations and the miniature substation underbases) shall be abrasive blasted and then sprayed with a zinc coating in accordance with SANS 780:2021 (edition 5.1). The nominal thickness of the zinc coating shall not be less than 0,1 mm.

5.16.4. Mild steel radiators of transformers and miniature substations shall be abrasive blasted and then hot dip galvanised in accordance with SANS 121.

5.16.5. In the case of miniature substations, the whole underbase shall be abrasive blasted and then hot dip galvanised and coated with black epoxy tar paint. All holes made in the underbase prior to galvanising shall be suitably sealed before painting.

5.16.6. All 3CR12, galvanised or zinc sprayed components shall be painted with an approved and appropriate primer and with two coats of an approved polyurethane-based heat fused epoxy powder coating in accordance with SANS 780:2021 (edition 5.1). Suitable steps shall have been taken to ensure a satisfactory bond between the protected surfaces and the paint to prevent peeling.

5.16.7. The colour of the outer coat of paint shall be an acceptable match to Colour C12 “Avocado” of SANS 1091.

5.16.8. The interior of all enclosures, except cable boxes, shall be painted white (“Arc Free White”).

5.16.9. The painting and corrosion protection measures detailed in this section shall also apply to the gland plates and gland cut-out cover plates, whether supplied with the transformers or as separate loose items.

5.16.10. Alternative proven corrosion protection systems will be considered. Manufacturers shall submit their proposed corrosion protection specifications to the Engineer for approval.

5.17. Warning Signs, Safety Notices and Labels

5.17.1. Warning signs, safety notices and labels shall be provided in accordance with the requirements of SANS 780:2021 (edition 5.1) for distribution transformers and pole mounted transformers, and in accordance with the requirements of SANS 1029 for miniature substations.

5.17.2. A metallic corrosion resistant 150 mm x 150 mm Type WW7 warning sign in accordance with SANS 1186-1 shall be riveted with stainless steel blind pop rivets to the outside of all MV and LV compartment doors. In the case of the transformer MV enclosure the warning sign shall be affixed by alternative means, to approval.

5.17.3. Barrier boards covering live components within the LV switch compartment shall be fitted with a Type WW7 warning sign in accordance with SANS 1186-1.

5.17.4. The interior side of MV and LV compartment doors shall be indelibly marked MV/S and LV/S as applicable. Such markings shall have lettering of 150 mm height.

5.17.5. All equipment within the MV and LV compartments shall be labelled by means of Traffolyte-type identification labels.

5.17.6. A sign depicting electric shock treatment and full first aid instructions and information in case of fires shall be permanently attached to the interior of the LV compartment doors on distribution transformers and the MV and LV compartment doors on miniature substations.

5.17.7. For miniature substations fitted with top-oil temperature-based shunt tripping, a label stating “CHECK THERMOMETER POCKET FILLED WITH OIL BEFORE COMMISSIONING” shall be placed adjacent to the thermometer pocket.

5.17.8. The total mass of the distribution transformers, pole mounted transformers and miniature substations (in kilograms) shall be clearly stencilled on the side or rear of the unit in white lettering with a minimum font size of 50 mm (e.g. “TOTAL MASS: 500 kg”).

5.17.9. Where the distribution transformer, pole mounted transformer or miniature substation supplier is not the manufacturer, the supplier shall provide and affix in an approved manner and position a label detailing the supplier’s name or trademark.

5.17.10. Labels and markings on the miniature substation’s ring main unit shall comply with the requirements of Section 8 of this specification.

5.18. Transformer and Miniature Substation Rating Plates

5.18.1. A rating plate shall be provided on the outside of the transformer tank detailing all the relevant information in metric form as stipulated in SANS 60076-1.

5.18.2. Rating plates on miniature substations shall be in accordance with the requirements of SANS 1029.

5.18.3. Rating plates shall include an oil PCB free declaration as specified in Section 5.10 of the Specification and shall in addition detail the brand and type of oil and confirmation of compliance to SANS 555-2.

5.18.4. Rating Plates shall include a Vector Diagram for the standard Dyn11 or Dyn7 transformer connections (for the particular tender Item) as per the requirements of SANS 60076-1, with the MV terminals being named A B C (left to right) and the LV terminals being named yn a b c (left to right).

5.18.5. There shall be no reference to phase colours on the rating plate, simply the terminal names A, B, C, a, b, c or yn as per the requirements of SANS 60076-1.

5.18.6. Winding terminal and tapping numbers per winding shall be depicted on the rating plate with the highest number connected to the bushing terminal, as indicated in Figure 5 of SANS 780:2021 (edition 5.1).

5.18.7. The phase rotation standard as per the rating plate shall be A B C.

5.19. Transformer Terminal Markings

5.19.1. All terminals (bushings or spindles) of the MV and LV windings shall be legibly and indelibly marked with the appropriate terminal name assigned to that terminal in accordance with SANS 60076-1 and SANS 780:2021 (edition 5.1).

5.19.2. Terminal naming and markings shall be in accordance with Figure 6 of SANS 780:2021 (edition 5.1), marked A B C as viewed from the MV side of the transformer, and **c b a yn** as viewed from the LV side of the transformer.

5.19.3. The markings shall be on brass or anodized aluminium and shall be permanently secured in a position adjacent to the bushings so as to clearly indicate the sequence of the terminals with which they are associated. The terminal markings shall be clearly visible when the covers are fitted.

5.19.4. Terminal markings for the MV terminals of distribution transformers shall be adjacent to the bushings inside the MV cable compartment.

5.19.5. Terminals shall in addition be marked with the phase designation, one of R, W, B, r, w, b or yn, to indicate the intended phase connections to the transformer's terminals for the particular tender Item, as detailed below.

5.19.6. Vector group Dyn7 transformers shall be marked for B W R phase connection to terminals A B C (as per Figure 6 of SANS 780:2021 (edition 5.1)) on the MV side of the transformer and r w b yn phase connection to terminals **c b a yn** (as per Figure 6 of SANS 780:2021 (edition 5.1)) on the LV side.

5.19.7. Vector Group Dyn11 transformers shall be marked for R W B phase connection to terminals A B C (as per Figure 6 of SANS 780:2021 (edition 5.1)) on the MV side of the transformer and b w r yn phase connection to terminals **c b a yn** (as per Figure 6 of SANS 780:2021 (edition 5.1)) on the LV side.

5.19.8. All LV busbars shall be colour-coded red, white, blue or black by means of a clearly visible painted spot of at least 20 mm in diameter.

5.19.9. All busbars shall be made from Bimetalic Busbars (CCAA or Al Alloy etc). All busbar and earth bar components shall be clearly marked with "CCT" at approved intervals by permanent embossing or punching.

5.20. Clearances

5.20.1. Air clearances and specific creepage distances on the MV side of the transformers and miniature substations and within the miniature substation MV compartment shall comply with SANS 876.

5.20.2. Clearances and specific creepage distances on the LV assembly of the transformers or miniature substations shall comply with the requirements of SANS 60439-1.

5.20.3. LV air clearances between uninsulated live parts (including bus bars, cable lugs, bolts and nuts) and between such live parts and earthed metalwork shall be a minimum of 20 mm.

5.20.4. Insulation covering LV live parts shall have a safe air clearance from bare metal parts, insulation covering live parts at different phase voltages and all other components and shall not be in contact with such parts and components.

6. Requirements Specific to Distribution Transformers and Pole Mounted Transformers

6.1. Mounting and Underbase - Distribution Transformer

6.1.1. The Distribution Transformers shall be free standing.

6.1.2. The transformers shall be fitted with a longitudinal skid underbase with stub axles suitable for mounting wheels of inner diameter 40 mm and outer diameter 150 mm and width 100 mm. Wheels will be supplied and fitted by others. The skid underbase shall be secured to the transformer in a manner which avoids water traps between the skid underbase and the transformer.

6.1.3. Jacking pads are required on all ground mounted Distribution Transformer tanks.

6.2. Mounting and Underbase - Pole Mounted Transformer

6.2.1. Pole Mounted Transformers of sizes 50 kVA and above shall be fitted with a flat underbase and will be mounted between two steel poles distant 1,828 m between centres with the underside of the transformer supported by two steel channels bolted to both poles. To secure the transformer to these cross members a clamping arrangement as shown on drawing SK 5206 shall be provided for each transformer. The 76 mm x 38 mm channel clamps and the galvanised clamping bolts shall be supplied by the Contractor.

6.2.2. Pole Mounted Transformers of size 315 kVA shall be fitted with a flat underbase and will be mounted between four steel poles with the underside of the transformer supported by two steel channels supported by further steel channels between pairs of poles. To secure the transformer to the cross members a clamping arrangement as shown on drawing SK 5206 shall be provided for each transformer. The 76 mm x 38 mm channel clamps and the galvanised clamping bolts shall be supplied by the Contractor.

6.3. Materials

6.3.1. The Distribution Transformers and Pole Mounted Transformers shall be manufactured from materials of types and minimum thicknesses as detailed below:

Tank sides - 4,5 mm 3CR12 (6 mm 3CR12 for ≥ 800 kVA)

Tank bottom - 4,5 mm 3CR12 (6 mm 3CR12 for ≥ 800 kVA)

Tank cover - 4,5 mm 3CR12 (6 mm 3CR12 for ≥ 800 kVA)

Radiator tubes - 1,6 mm galvanised mild steel / stainless steel

MV cable box (where applicable) - 4,5 mm 3CR12

LV compartment and door - 3 mm 3CR12

LV compartment cover - 3 mm 3CR12

LV compartment gland plate - 4 mm 3CR12

Flat underbase (PM Transformers) - 4,5 mm 3CR12 (50kVA); 6 mm 3CR12 for ≥ 100 kVA)

Skid underbase (Dbn Transformers) - 4,5 mm mild steel (6 mm mild steel for ≥ 800 kVA)

6.3.2. Stainless steel radiator tubes will be accepted and are preferred provided that such designs have been

completed and type tested, are of equivalent mechanical performance and are cost effective.

6.3.3. All component materials shall be identified on the transformer rating plate in an approved manner.

6.4. Tap Changer Compartment and Door – Pole mounted and distribution transformers

6.5. Pole mounted and distribution transformers shall be fitted with the tap changer compartment and door with externally mounted tap changers shall be fabricated from 3CR12 stainless steel of minimum thickness 3 mm.

6.6. The tap changer box shall be fitted with recessed lockable door with concealed hinges or a cover that provides an appropriate level of vandalism resistance. Locking facilities shall be suitable for padlocks or shall be fitted with integral locks keyed to the Purchaser's standardised locking hierarchy and shall be to the approval of the Engineer. Padlocks shall be protected against vandalism.

6.7. The locking facilities shall be backed up by an auxiliary Allen bolt based securing system.

6.8. Padlocks will be supplied by others.

6.9. Primary (MV) Side – Pole Mounted Transformers

6.9.1. The MV terminals shall be brought out from the side of the tank through open bushings complying with the requirements of SANS 780:2021 (edition 5.1). These bushings shall be located so as to facilitate connection to overhead mains arranged above the transformer.

6.9.2. The bushings shall have a threaded spindle and be equipped with three nuts and a suitable lug to approval.

6.9.3. The bushings shall be outdoor bushings of ceramic or other approved material. Dough moulded compound (DMC) components or similar will not be accepted.

6.10. Primary (MV) Side – Distribution Transformers: Cable Dividing Box

6.10.1. The transformers shall be fitted on the MV side with a three-pole single-gland cable dividing box designed for dry type cable terminations.

6.10.2. All dimensions, clearances and creepage paths for the transformer MV cable dividing box shall comply with the requirements of SANS 876 for 12 kV Type 1 unshrouded cable terminations.

6.10.3. The cable dividing box shall further be designed to meet the requirements for dry type terminations specified in SANS 1332 for 95 kV BIL and shall be provided with appropriate breathing and drain vents to minimize the possibility of condensation. The cable box shall be completely weatherproof so that the transformers can be installed in unprotected outdoor locations. All breathing vents shall be suitably vermin proofed.

6.10.4. The cable dividing boxes shall have a degree of protection of at least IP 54, in accordance with SANS 60529.

6.10.5. The cable dividing box shall be provided with a tapered brass wiping gland suitable for a three core 11 kV PILEDSTA cable with stranded conductors up to 120 mm² nominal cross section.

6.10.6. The height of the cable dividing box shall be a minimum of 650 mm, measured from the centre line of the terminals to the gland plate.

6.10.7. The MV cable dividing box shall be removable without disturbing the bushing or bushing plate.

6.11. Primary (MV) Side – Distribution Transformers: Cable Bushings

6.11.1. Bushings for the MV cable dividing box shall comply fully with the requirements of SANS 60137.

6.11.2. Bushings shall be Type C bushings complying with EN 50180 and shall be supplied with M12 reducing stems and M12 nut, washer and spring washer.

6.11.3. The contractor shall ensure that M12 reducing stems supplied are of such size that when fully installed in the Type C bushing the 16 / 12 mm collar of the reducing stem remains fully recessed behind the contact face of the bushing and does not prevent good electrical contact between the cable lug and the bushing contact face.

6.11.4. In addition to the tests specified in SANS 60137 the bushings shall be routine partial discharge tested in accordance with the requirements of SANS 60270. The magnitude of the discharge shall not be greater than 5 pC.

6.11.5. The surface of the bushings shall be smooth and free from any blemishes, patches or fillings.

6.11.6. The bushings shall be made from insulating material to the approval of the Engineer. DMC bushings are not acceptable.

6.12. Secondary (3300 V) Side – Distribution Transformers: Cable Box and Bushings

6.12.1. Distribution Transformers with a 3300 V secondary winding shall be fitted on the secondary side with a three-pole single-gland cable dividing box and tapered brass wiping gland complying fully with the requirements specified above for the primary (MV) side.

6.12.2. The secondary side bushings of Distribution Transformers with 3300 V secondary windings shall be Type C bushings complying fully with the requirements specified above for distribution transformer primary (MV) cable bushings.

6.13. Secondary (LV) Side – Switch Box and Fittings

6.13.1. An LV switch compartment shall be fitted to each pole mounted transformer and distribution transformer on the LV side, and shall be as shown on Drawings DR 2399/B Rev 2 for 100 kVA and 200 kVA pole mounted transformers, as shown on Drawings DR 2399/A Sheet 1 and Sheet 3 for the 315 kVA pole mounted transformer and 200 kVA to 1000 kVA distribution transformers, and as shown on DR 2399/A Sheet 1 for the 1600 kVA and 2000 kVA distribution transformers with 420 V secondary windings.

6.13.2. The LV switch compartment shall be equipped by the manufacturer with phase busbars, neutral bar, an earth bar, a predrilled unitary or split gland plate (as specified per Item), gasketted steel coverplates on the gland plate cut outs, and other fittings as specified.

6.13.3. The LV switch compartment for 50 kVA pole mounted transformers shall be generally in accordance with Drawing DR 2399/B Rev 2 but shall be sized appropriately for 2x MCCBs of the G15D or F15D frame size and shall be provided with and have suitable electrical clearances and access clearances for the LV bushings, busbars and MCCB backing plate, and for SSO, LV HRC fuses and terminal blocks as detailed in Drawing DR 2399/C Sheet 3 Rev 2.

6.13.4. The LV switch compartment layout for 100 kVA and 200 kVA pole mounted transformers shall be as depicted in Drawing DR 2399/C Sheet 3 Rev 2.

6.13.5. The LV switch compartment layout for the 315 kVA pole mounted transformer and the 200 kVA to 1000 kVA distribution transformers shall be as depicted in Drawing DR 2399/C Sheet 1 Rev 14.

6.13.6. The LV switch compartment shall be removable without disturbing the bushings or bushing plate. Should the need arise, it must be possible to replace the LV switch compartment with a cable box on the same fixings.

6.13.7. 6 - 12 mm Earth studs each fitted with a nut, a spring washer and two flat washers shall be brazed on the LV side of the transformer tanks at a level below the gland plate of the switch box.

6.13.8. Dyn7 Distribution (with 420 V secondary windings) and Pole Mounted Transformers LV switch compartments shall be fitted with an approved 13 A square pin switched socket outlet and a pair of 15

A terminals protected by type "NS" HRC 20 A and 4 A fuse links, respectively.

6.13.9. Dyn11 Distribution (with 420 V secondary windings) and Pole Mounted Transformers LV switch compartments shall be fitted with an approved 15 A round pin switched socket outlet and a pair of 15 A terminals protected by type "NS" HRC 20 A and 4 A fuse links, respectively.

6.13.10. The supply to the "NS" HRC fuse links shall be by means of an approved insulated copper conductor securely supported below busbar level.

6.14. Busbars - General Requirements

6.14.1. The phase neutral and earth busbars shall be tinned Bimetalic Busbars (CCAA or Al Alloy etc)

6.14.2. Electroplated materials shall not be acceptable for Bimetalic Busbars (CCAA or Al Alloy etc) bus bars.

6.14.3. Tinned Bimetalic Busbars (CCAA or Al Alloy etc) busbars shall be tinned to the same standard as specified for copper busbars.

6.14.4. Copper busbar nominal ratings are as detailed in table 1 below. Tinned Bimetalic Busbars (CCAA or Al Alloy etc) busbars shall be sized to achieve minimum load and fault ratings equivalent to the copper busbar sizes.

Tx Rating	Copper Busbar Dimensions	Norminal Rated Current (A)
200kVA	25x6 mm	274.93
315kVA	30x10 mm	433.01
500kVA	50x10 mm	687.32
800kVA	50x12.5 mm	1099.71
1000kVA	80x10 mm	1374.64

6.14.5. Tenderers shall provide detailed technical data sheets and test certificate documenting and proven such equivalence.

6.14.6. Tenders shall detail standard equivalent Bimetalic Busbars (CCAA or Al Alloy etc) bus bar dimensions where indicated by item in Schedule 13B

6.14.7. The neutral bar shall have the same cross-sectional area as the phase busbars.

6.14.8. The earth bar dimensions and the phase and neutral busbar lengths of Pole Mounted Transformers and Distribution Transformers up to 1000 kVA rating shall be as detailed on Drawing DR 2399/C Sheet 1 Rev 14 and Sheet 3 Rev 2 for the respective transformer sizes.

6.14.9. The earth bar dimensions, and the phase and neutral busbars of Pole Mounted Transformers and Distribution Transformers up to 1000 kVA rating, shall be made from Tinned Bimetalic Busbars (CCAA or Al Alloy etc) (CCAA) material. The lengths and sizes shall conform to **Drawing DR 2399/C Sheet 1 Rev 14 and Sheet 3 Rev 2 for the respective transformer sizes.**

6.14.10. Phase busbars on 100 kVA and 200 kVA units shall be pre-drilled with 12,5 mm holes suitably positioned for connections to 3 x J25S or equivalent moulded case circuit breakers (MCCB's).

6.14.11. Phase busbars on 315 kVA to 1000 kVA units shall be pre-drilled with 12,5 mm holes suitably positioned for connections to either 3 x large frame MCCB's or 5 x J25S or equivalent MCCB's.

6.14.12. The neutral bar and earth bar on Pole Mounted Transformers shall have a minimum of six predrilled 12,5 mm connection holes as detailed in Drawing DR 2399/C Sheet 3 Rev 2.

6.14.13. The neutral bar and earth bar on Distribution Transformers shall have a minimum of eight predrilled 12,5 mm connection holes as detailed in Drawing DR 2399/C Sheet 1 Rev 14.

6.14.14. All pre-drilled connection holes on phase busbars, neutral bar and earth bar shall be fitted with M12 stainless steel bolts, nuts and washers.

6.14.15. The phase busbars shall be supported by two slotted insulating barrier boards as depicted in Drawings DR 2399/C Sheet 1 Rev 14 and DR 2399/C Sheet 3 Rev 2. Alternative mounting on colour coded nylon stand-off insulators shall be to the Engineer's approval.

6.14.16. The neutral bar shall be mounted on black nylon stand-off insulators. The insulators shall be rated to withstand a working voltage of 600 V under normal and damp conditions and shall be rated to withstand a high voltage test of 2 kV for 5 minutes.

6.14.17. The neutral and earth bars shall be mounted using stainless steel torque shear bolts.

6.14.18. The neutral bar shall be connected to the earth bar with a removable solid tinned Bimetalic Busbars (CCAA or Al Alloy etc) earth strap as detailed on Drawings DR 2399/C Sheet 1 Rev 14 and Sheet 3 Rev 2.

6.14.19. It shall be ensured that the positioning of the earth bar and neutral bar relative to the predrilled cable gland holes on the gland plate are such that all gland holes can be utilised for the specified cable sizes without obstruction of cables by the earth and neutral bars. The design positions of the earth and neutral bars and the predrilled gland holes shall be to the Engineer's approval.

6.14.20. Busbars shall be color-coded according to the phase colors, i.e. r-w-b, b-w-r.

6.15. Secondary (LV) Side – Bushings, Busbars and Connections

6.15.1. The LV bushings of Pole Mounted Transformers and Distribution Transformers with 420 V secondary windings shall be of ceramic or other insulating material to the approval of the Engineer. DMC components or similar shall not be accepted.

6.15.2. All bushings shall be provided with individual or mono-block tinned aluminium alloy Palm flag type or similar, with suitable number of holes for fastening.

6.15.3. The Distribution Transformers of rating 1600 kVA and 2000 kVA with 420 V secondary windings shall be fitted with busbars / bushing flags suitable for connection of up to 4x single core cables per phase of cross-sectional area 500 mm² or 630 mm².

6.15.4. The Pole Mounted Transformers and Distribution Transformers up to 1000 kVA rating shall be fitted with phase busbars and neutral bar as specified below.

6.15.5. The connection between the transformer LV bushings and the phase and neutral busbars shall be as detailed on Drawings DR 2399/C Sheet 1 Rev 14 and Sheet 3 Rev 2 for the respective transformer types and sizes. The phase busbar connections shall be solid tinned Bimetalic Busbars (CCAA or Al Alloy etc) conductors or flexible LV alternative Jumpers Conductor (CCAA or Al Alloy etc) conductors to approval and so designed that the circuit breakers may be independently removed for replacement. The neutral busbar connection shall be PVC insulated LV alternative Conductor (CCAA or Al Alloy etc).

6.15.6. The connections between the transformer LV bushings and the busbars and the connections of the bushing flags onto the spindles shall be fitted with locknuts at each connection point.

6.15.7. All external earth connections on the units shall be of suitably sized Copper-Clad Steel or Aluminium Alloy.

6.16. Secondary (LV) Side – MCCB's and MCCB Backing Plate

6.16.1. Ground-mount Distribution Transformers shall be fitted with the main electronic adjustable MCCB.

6.16.2. The Main MCCB shall be connected between the LV bushings and the busbars.

6.16.3. The tripping and holding (non-tripping) currents and maximum tripping time under overload conditions shall be in accordance with SANS 60947-2.

6.16.4. The MCCB operating characteristics for electronic release MCCBs shall not be affected by changes in ambient temperature.

6.16.5. The MCCB must be locked, and a proof of testing be provided.

6.16.6. Include the Electronic Tripping unit (for the curve), on both the spec and the schedules

6.16.7. The ratings shall be suitably choosen for each transformer size. The protection settings shall be applied to account for inrush current, overloading and harmonics. These ratings and settings shall be provided in schedule 13B.

6.16.8. The moulded case circuit breakers for feeders will be provided and fitted by others.

6.16.9. The MCCB backing plate for 100 kVA, 200 kVA and 315 kVA Pole Mounted Transformers shall be pre-drilled for the fitting of 3 x J25S or equivalent 25kA MCCB's of rating up to 250 A, arranged in accordance with Drawing DR 2399/C Sheet 3 Rev 2.

6.16.10. The MCCB backing plate for 50 kVA Pole Mounted Transformers shall be pre-drilled for the fitting of 2 x G15D or F15D or equivalent 15kA MCCB's of rating up to 100 A.

6.16.11. The backing plates shall be positioned generally as detailed in Drawings DR 2399/C Sheet 1 Rev 14 and Sheet 3 Rev 2. The backing plate (and accordingly the MCCBs) shall be positioned relative to the busbars such that the required separations from earthed and live busbars and conductive parts and minimum arc venting spaces specified by the MCCB manufacturers are maintained. MCCB's currently utilized are the CBi Hy-Mag L40B, J25S, F15D and M35B types.

6.16.12. A barrier board, to approval, shall be provided to shield the busbars, the connectors to the MCCB's and the MCCB incoming terminals to prevent inadvertent contact.

6.16.13. A further, separate barrier board, to approval, shall be provided to shield the MCCB outgoing terminals and cable droppers and lugs to prevent inadvertent contact.

6.16.14. Barrier boards shall be so positioned that the access to the operating toggles of the moulded case circuit breakers is not inhibited in any way, and that these toggles can be operated safely.

6.17. Secondary (LV) Side – Gland Plate and Glands

6.17.1. The LV switch compartment gland plate on the Pole Mounted and Distribution Transformers shall be predrilled as specified and fitted with removable gasketted 3CR12 steel coverplates.

6.17.2. The quantity and position of gland holes for the 50 kVA, 100 kVA and 200 kVA Pole Mounted Transformers shall be as detailed in Drawing DR 2399/B Rev 2, suitable for 2 x four core LV cables of up to 120 mm² nominal section.

6.17.3. The 315 kVA Pole Mounted Transformers shall have gland plates predrilled with 5 x 50 mm gland holes, suitable for 5 x four core LV cables of up to 120 mm² nominal section.

6.17.4. 6.12.4The Dyn7 Distribution Transformers (Items B1 to B5) shall be fitted as standard with Split Gland Plates complete with Blanking Coverplates, as depicted in Drawings SK 5242 Sheets 1 & 2.

6.17.5. The Dyn11 Distribution Transformers of ratings 200 kVA to 500 kVA shall be fitted with a non-ferrous gland plate having 50 mm diameter gland holes suitable to make off 4 x 500 mm² single core armoured cables using No 5 adjustable glands.

6.17.6. The Dyn11 Distribution Transformers of ratings 800 kVA and 1000 kVA shall be fitted with a non-ferrous gland plate having 50 mm diameter gland holes suitable to make off 8 x 500 mm² single core

armoured cables (2x per phase) using No 5 adjustable glands.

6.17.7. The Distribution Transformers of ratings 1600 kVA and 2000 kVA with 420 V secondary windings shall be fitted with a non-ferrous gland plate having 50 mm diameter gland holes suitable to make off 16 x 500 mm² single core armoured cables (4x per phase) using No 5 adjustable glands.

6.17.8. Additional gasketted steel cover plates that are predrilled for smaller gland sizes and that are designed for bolting to the Dyn7 Distribution Transformer Split Gland Plate depicted in Drawings SK 5242 Sheets 1 & 2 will be ordered as required. These shall be as follows:

6.17.9. 63 mm Predrilled Cover Plate: Gasketted and bolted 3CR12 steel cover plate with predrilled 63 mm hole for use with No's 5 & 6 Adjustable Glands.

6.17.10. 40 mm Predrilled Cover Plate: Gasketted and bolted 3CR12 steel cover plate with predrilled 40 mm hole for use with No's 3 & 4 Adjustable Glands.

6.17.11. Additional 3CR12 steel split gland plates for retrofitting in existing Dyn7 Distribution Transformers in place of the standard gland plates shall be as shown on Drawings SK 5242 Sheets 1 & 2.

6.17.12. Tenderers shall tender for the supply of Split Gland Plates complete with 3CR12 steel blanking plates as a complete kit for purchase to stock for such retrofitting, as required.

6.17.13. Predrilled 3CR12 steel gland cover plates for the Distribution Transformer split gland plate shall be drilled and dimensioned as detailed in Drawing No SK 5242 Sheet 2 and will be ordered to stock as required.

6.18. Surge Arrestor Brackets

6.18.1. Surge arrestor brackets shall be provided on the Pole Mounted Transformers and shall comply with and be fitted in accordance with SANS 780:2021 (edition 5.1).

7. Requirements Specific to Miniature Substations

7.1. General Construction

7.1.1. The miniature substations shall be suitable for outdoor use and shall be divided into following compartments where applicable, namely:

7.1.1.1. MV

7.1.1.2. Transformer

7.1.1.3. LV

7.1.1.4. Communication (differs according to the type of mini)

7.1.2. The miniature substations shall be manufactured from materials as detailed below with the following minimum thicknesses:

Channel Underbase	:	6 mm hot dip galvanised mild steel
Transformer Bottom	:	4,5 mm 3CR12 stainless steel
Transformer Tank	:	4,5 mm 3CR12 stainless steel
Tank Cover	:	4,5 mm 3CR12 stainless steel
Radiator Tubes	:	1,6 mm hot dip galvanised mild steel / stainless steel
Walls and Roof	:	3 mm 3CR12 stainless steel
Doors	:	3 mm 3CR12 stainless steel

7.2. Miniature Substation Type C:

7.2.1. The design and construction of the Dyn7 Type C miniature substations shall be generally in accordance with the arrangement for a Type A-long unitary design substation as specified in SANS 1029 and shall comply with SANS 1029 where applicable. The miniature substations shall have a transverse mounted transformer and shall be dimensioned to fit on a Type CS concrete plinth as shown on Drawing SK 5180 Rev 1. The miniature substation base frame shall not exceed the dimensions of the Type CS concrete plinth and shall be in full compliance with cable cut-out dimensions and specified internal arc classification. The width of the substation is to be kept to a minimum. The width of the LV compartment door shall be maximized, and the door opening shall have a door width of a minimum of 1250 mm. The positioning of the LV cable feeders shall be positioned above the plinth opening (900mm).

7.2.2. The front side of the Type C miniature substation shall be deemed to be the side on the long axis that faces the road. Type C miniature substations shall have the LV compartment on the left-hand side of the transformer (facing in the direction of the long axis) and the MV (RMU) compartment on the right-hand side of the transformer when the miniature substation is viewed from the front side. The tap changer compartment and MV (RMU) compartment doors shall open to the front side and the LV compartment door shall be hinged such that it opens towards the rear of the miniature substation and provide unobstructed egress towards the front.

7.2.3. SMART:

The smart compartment is intended to house a 4 quadrant AMI three phase power meter with its associated ancillary equipment (metering from hereon), and a communications (Comms from hereon) unit with a suitable mini-RTU. See the top view of the typical mini-substation layout, showing the SMART compartment.

This compartment will be shared between the two units mentioned above and must be easily accessible from the MV and from the LV side, to allow interfacing of the sensor data from those compartments. The compartment will be built such that there are not external cables from one compartment to the other.

7.2.3.1. The dimensions for the SMART compartment shall be as follows:

Minimum Height: 300mm.

Width: 300mm.

Depth: 200mm

7.2.3.2. Metering Portion:

A minimum of 300 x 300 will be allowed within the SMART compartment.

7.2.3.3. Comms Portion:

A minimum of 300 x 300 will be allowed within the SMART compartment.

7.2.3.4. Aerial Dome Space:

The aerial dome suitable space shall be allocated for both the dome itself and any wiring connections leading to it.

7.2.3.5. Compartment and Door

The tap changer box shall be fitted with recessed lockable door with concealed hinges or a cover that provides an appropriate level of vandalism resistance. Locking facilities shall be suitable for padlocks or shall be fitted with integral locks keyed to the Purchaser’s standardised locking hierarchy and shall be to the approval of the Engineer. Padlocks shall be protected against vandalism.

The locking facilities shall be backed up by an auxiliary Allen bolt based securing system.

Padlocks will be supplied by others.

7.2.3.6. Environmental Considerations:

Ventilation: Allow suitable means of natural heat removal without affecting the overall Ingress Protection of the mini-substation enclosure.

7.2.3.7. Power requirements

Allow adequate space for the power supply point complying to SANS, for powering the metering and comms units.

Provide and wire a single-phase power supply points ufficient to power the comms and metering units within the SMART compartment.

7.2.3.8. Cable Management:

Allow neat means to manage and channel wiring between the LV, MV and SMART compartments for collection of data from the respective compartments.

7.2.3.9. Integration with Other Compartments:

Ensure that the SMART compartment is isolated from the LV and MV compartments in terms of both physical separation and electrical isolation to comply with safety standards, however still able to allow

all wiring.

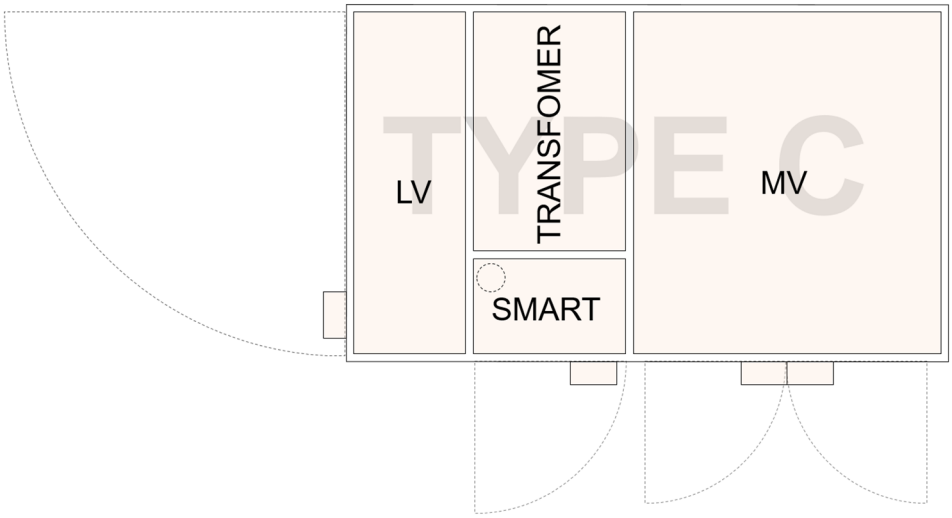

Figure 7-1:Type C Mini Substation Layout

7.2.4. Miniature Substation Type B:

7.2.4.1. The design and construction of the Type B miniature substation shall be in accordance with the arrangement for a Type B, unitary design substation as specified in SANS 1029. The overall dimensions of the miniature substation shall be in accordance with SANS 1029, and it shall be suitable for installation on a Type B concrete plinth as shown in Figure C.7 of SANS 1029.

7.2.5. Stainless steel radiator tubes will be accepted and are preferred provided that such designs have been completed and type tested, are of equivalent mechanical performance and are cost effective.

7.2.6. All component materials shall be identified on the miniature substation rating plate in an approved manner.

7.2.6.1.1. SMART:

The smart compartment is intended to house a 4 quadrant AMI three phase power meter with its associated ancillary equipment (metering from hereon), and a communications (Comms from hereon) unit with a suitable RTU. See the top view of the typical mini-substation layout, showing the SMART compartment.

This compartment will be shared between the two units mentioned above and must be easily accessible from the MV and from the LV side, to allow interfacing of the sensor data from those compartments. The compartment will be built such that there are not external cables from one compartment to the other.

7.2.6.1.2. The dimensions for the SMART compartment shall be as follows:

Minimum Height: 300mm.

Width: 300mm.

Depth: 200mm

7.2.6.1.3. Metering Portion:

A minimum of 300 x 300 will be allowed within the SMART compartment.

7.2.6.1.4. Comms Portion:

A minimum of 300 x 300 will be allowed within the SMART compartment.

7.2.6.1.5. Aerial Dome Space:

The aerial dome suitable space shall be allocated for both the dome itself and any wiring connections

leading to it.

7.2.6.1.6. Environmental Considerations:

Ventilation:

Suitable means of natural heat removal shall be considered without affecting the overall Ingress Protection of the mini-substation enclosure.

7.2.6.1.7. Cable Management:

Possible cable trays or conduits shall be considered in the design of this compartment, to manage power and communication cables.

7.2.6.1.8. Integration with Other Compartments:

Ensure that the SMART compartment is isolated from the LV and MV compartments in terms of both physical separation and electrical isolation to comply with safety standards.

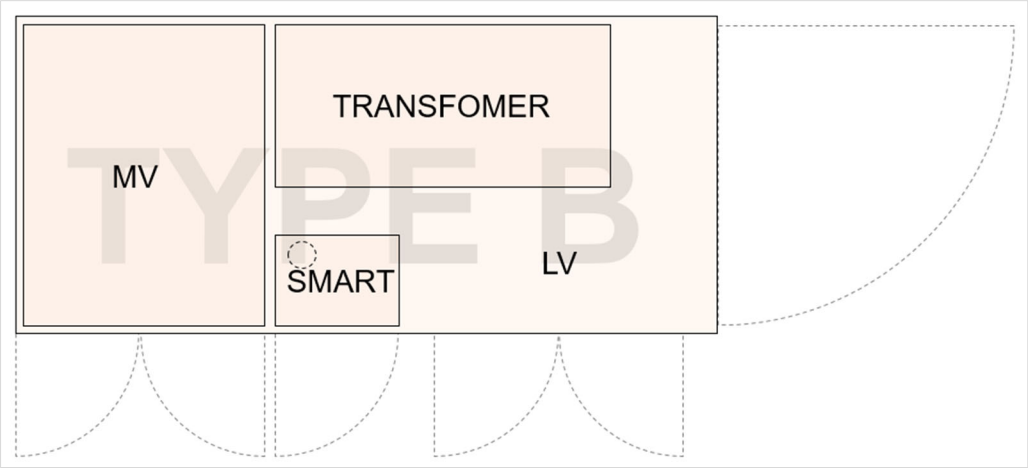

Figure 7-2: Type B Mini-Substation Layout

7.3. Miniature Substation Roofing and Walls and IAC Exhaust Chimneys

7.3.1. The roof and walls shall be of a single unitary construction. The roof shall have a distinct double slope to shed water.

7.3.2. Miniature substation exhausts (chimneys) provided in order to comply with the internal arc requirements of the specification shall be designed so that there is no possibility of water pooling or accumulation, either internally or externally. Where chimneys are fitted with open grids on the upper surface the design shall be such that water drains freely and cannot pool or gain access to the interior of the miniature substation MV compartment.

7.3.3. Internal arc exhaust (chimney) flaps shall be designed and constructed so that they maintain the specified IP rating of the equipment but open freely and within the parameters of the internal arc type test if subject to internal arc overpressures once in service.

7.3.4. Mechanically shearing fasteners on external flaps shall shear cleanly and not create back pressure above that provided for in the internal arc design, including where internal arc fault levels are below the rated and tested value.

7.3.5. Interior flaps on the internal arc exhaust chimney shall pivot freely under fault conditions and manufacturers shall take measures to ensure that they do not bind on the chimney duct or on the adjacent flaps (where paired flaps are used) when subject to internal arc overpressures. Any fasteners used to ensure that the specified IP rating is maintained shall comply with Clause 7.2.3 above and shall not inhibit operation of the exhaust chimney flaps in accordance with the design provisions.

7.3.6. The miniature substation roof shall be secured in place in such a way as to ensure that the internal arc rating of the miniature substation is maintained at all times during service. Where possible the miniature substation shall be transported with the roof fitted and secured, and removal on site for inspections, maintenance or other routine activities shall not be necessary.

7.3.7. Where removal of the miniature substation roof cannot be avoided during lifting and installation of the miniature substation on site the manufacturer shall ensure that the design provisions facilitate the easy and reliable refitting of the roof by field staff to the required standard to ensure that the equipment performs to the specified IAC classification in the event of an internal fault. The Tenderer shall provide a thorough Work Method Statement document detailing the step-by-step requirements for refitting the roof, including fastener details and positions, torque settings and recommended tests to verify correct re-assembly.

7.3.8. Lifting lugs shall be provided and shall be positioned so that the entire miniature substation can be safely slung and transported without distortion of the miniature substation enclosure or frame and preferably without the necessity of removing the roof.

7.3.9. The internal equipment shall be protected against the ingress of water and shall be vermin proof.

7.3.10. Ventilation openings shall be provided in the roof, to prevent condensation.

7.3.11. The overhanging edge of the roof shall be folded back towards the housing on all sides.

7.4. Miniature Substation Doors

7.4.1. All openings on the miniature substation for access shall be equipped with lockable hinged doors. The doors shall be equipped with hinges that shall be internally mounted.

7.4.2. Doors shall be indelibly marked, in red, MV/S and LV/S as applicable, on the insides.

7.4.3. A rigid document holder suitable for A4 sized documentation shall be provided and fitted to the inside of the right-hand side MV compartment door.

7.5. Miniature Substation Base Construction

7.5.1. The miniature substation housing shall be erected on a U-section steel frame with measurements of not less than 75 mm x 70 mm. The U-section shall be hot dip galvanised and painted with two coats black bitumen paint. It shall be rigid, robust and completely self-supporting.

7.5.2. Facilities shall be provided for bolting of the miniature substation underbase to a concrete plinth utilising holding-down set screws as necessary in order to provide for a safe installation and to comply with the miniature substation internal arc classification.

7.5.3. Flanges that are provided for the fitting of holding-down set screws shall be of a minimum of 5 mm thick steel or alternatively be reinforced to prevent bending during transportation, handling and installation.

7.6. Earthing

7.6.1. Earth terminals, (M12 x 50 mm minimum) shall be welded to the transformer tank and shall be accessible from the MV and LV compartments.

7.6.2. The ring main unit and miniature substation base shall be securely bonded to these earth terminals in the MV compartment.

7.6.3. LV alternative Conductor (CCAA or Al Alloy etc) bonding conductors shall have a minimum cross-sectional area of 70 mm².

7.6.4. Two stainless steel nuts and washers shall be provided on each earth terminal.

7.6.5. Each compartment shall be provided with an earthing terminal that complies with the relevant requirements of SANS 1029.

7.6.6. All earthing conductors shall be painted to assist with the prevention of vandalism.

7.7. Temperature Monitoring and MV Shunt Tripping

7.7.1. The miniature substation transformer shall be fitted with a top-oil thermoelectric temperature sensing element, digital temperature monitoring device, and all necessary auxiliary wiring and fittings. The device shall facilitate both the shunt tripping of the RMU circuit breaker tee-off in the event of a transformer over-temperature condition, as well as communication of temperature information and alarms to the central SCADA. Communication wiring shall be wired to the SMART compartment.

7.7.2. The digital temperature monitoring device shall be factory set to send an alarm signal to SCADA as an early warning at a suitable temperature below the trip threshold, and to shunt trip the RMU when the transformer top-oil temperature exceeds 90°C.

7.7.3. The shunt tripping installation shall locally provide over-temperature trip indication to indicate when the digital temperature monitor has operated and issued an over-temperature trip signal. The alarm and temperature indications shall be clearly visible when the LV transformer compartment door is open.

7.7.4. The digital temperature monitor shall be housed in an enclosure fitted with a transparent front cover in order to view the temperature setting of the digital temperature monitor. The enclosure shall be sealed with a stainless-steel wire and crimped tinned copper ferrule to prevent changes to the digital temperature monitor set point.

7.7.5. In the event that the trip indication is achieved utilising an auxiliary relay, such relay shall be housed adjacent to the thermostat.

7.7.6. The shunt trip facility shall be supplied from the transformer LV busbars and shall be fitted with a suitably rated HRC fuse-link and a neutral link.

7.7.7. The thermostat and over-temperature trip indication shall be housed in the transformer LV compartment unless otherwise approved by the Engineer.

7.7.8. The positioning of the thermostat and over-temperature trip indication equipment shall be such that it complies with all specified electrical clearances and in addition does not obstruct access for installation, maintenance or operation of other equipment in the LV compartment.

7.8. MV Compartment

7.8.1. The compartment shall contain a ring main unit as specified.

7.8.2. MV bushings on the transformer shall be Type C bushings in accordance with EN 50180 and shall comply with the requirements of SANS 60137.

7.8.3. In addition to the tests specified in SANS 60137 the bushings shall be routine partial discharge tested in accordance with the requirements of SANS 60270. The magnitude of the discharge shall not be greater than 5 pC.

7.8.4. The surface of the bushings shall be smooth and free from any blemishes, patches or fillings.

7.8.5. The bushings shall be made from insulating material to the approval of the Engineer. DMC bushings are not acceptable.

7.8.6. All dimensions, clearances and creepage paths for the transformer MV bushings shall comply with the requirements of SANS 876 for 12 kV Type 1 unshrouded cable terminations.

7.8.7. Internal connections from the ring main unit to the transformer shall be unarmoured, screened, XLPE single-core conductors, appropriately sized to be equivalent to a 35 mm² copper conductor, in

accordance with SANS 1339, or an alternative screened polymeric insulated cable (e.g., EPR) compliant with SANS 6283. The metallic core screen shall comprise copper tapes or copper wires, meeting the requirements of the relevant standards. The type of cable shall be specified in Schedule B.

7.8.8. The termination of the single core screened 11 kV trailing cables shall be to approval. The screening shall be earthed at the RMU end only.

7.8.9. The terminations shall be appropriate for the screened single core trailing cable, shall provide appropriate proven stress relief and shall have no sharp projections.

7.8.10. The termination of the trailing cables on the Type C bushings of the transformer shall be shrouded with Raychem Type RCAB, or equivalent to approval, push-on unscreened insulated bushing boots, rated at 17,5 kV and 95 kV BIL. These insulating boots shall be installed in accordance with the manufacturer's Installation Instructions.

7.8.11. The termination of the trailing cables on the Type C bushings of the ring main unit circuit breaker tee-off shall be fitted with Raychem Type RSTI screened separable connectors (SSCs), or equivalent to approval, rated at 95 kV BIL. These SSCs shall be installed in accordance with the manufacturer's Installation Instructions.

7.8.12. Phase colour indication, RWB (Dyn11) or BWR (Dyn7), shall be positioned above the miniature substation transformer MV bushings.

7.8.13. Approved removable barriers and shrouding shall be installed to prevent access by the operator to the MV connections.

7.8.14. Transformer Compartment

7.8.15. The transformer compartment of each miniature substation shall contain a sealed distribution transformer complying with the requirements of SANS 780:2021 (edition 5.1) and this specification.

7.9. Tap Changer Compartment and Door

7.10. The tap changer compartment and door for miniature substations with externally mounted tap changers shall be fabricated from 3CR12 stainless steel of minimum thickness 3 mm.

7.11. The tap changer box shall be fitted with recessed lockable door with concealed hinges or a cover that provides an appropriate level of vandalism resistance. Locking facilities shall be suitable for padlocks or shall be fitted with integral locks keyed to the Purchaser's standardised locking hierarchy and shall be to the approval of the Engineer. Padlocks shall be protected against vandalism.

7.12. The locking facilities shall be backed up by an auxiliary Allen bolt based securing system.

7.13. Padlocks will be supplied by others.

7.14. LV Compartment - Type C Miniature substations

7.14.1. <u>Type C Miniature substations – Switch Box and Fittings</u>

7.14.1.1. A switch compartment, as shown on Drawing DR 2399/C Sheet 2 Rev 6 shall be fitted to each Type C miniature substation on the LV side. The LV switch compartment shall consist of a single module with a width of approximately 900 mm. The switch compartment shall be equipped with phase busbars, neutral bar, earth bar, thermometer pocket, thermostat, over-temperature trip indication, flush mounted 96 mm (square) 3 phase digital maximum power demand meter 96 mm and other fittings as detailed.

7.14.1.2. The mounting of the current transformers shall not encroach on the minimum clearance required in terms of SANS 60439-1.

7.14.1.3. An approved 13 A square pin switched socket outlet (SSO) and a pair of 15 A terminals

protected by type "NS" HRC 20 A and 4 A fuse links, respectively, shall be provided in each LV switch compartment.

7.14.1.4. The "NS" HRC 4 A fused link shall be used as the connection to supply the resetting voltage for the earth fault indicator equipment.

7.14.1.5. The supply to the fuse links for the SSO, 15A terminals and shunt tripping installation shall be by means of approved insulated copper conductors securely supported below busbar level.

7.14.1.6. Means shall be provided for carrying vermin proof earth fault indicator leads from the MV compartment to the LV compartment in an approved manner.

7.14.1.7. Hardboard barriers shall be provided and installed to close the bottom of the LV compartment to reduce the occurrence of condensation in the compartment during storage and prior to commissioning of the miniature substations.

7.14.2. Type C Miniature substations – Bushings, Busbars and Connections

7.14.2.1. All LV bushings shall be of porcelain or other insulating material to the approval of the Engineer. DMC components or similar will not be accepted.

7.14.3. All bushings shall be provided with individual or mono-block tinned aluminium alloy Palm flag type or similar, with suitable number of holes for fastening.

7.14.3.1. All busbars, neutral bars, and earth bars shall be made of tinned Bimetalic Busbars (CCAA or Al Alloy etc), color-coded, and dimensioned such that, at full load, the current density shall not exceed an equivalent to that of copper busbars, i.e., 1.8 A/mm².

7.14.3.2. The neutral bar shall have the same cross-sectional area as the phase busbars.

7.14.3.3. The earth bar dimensions, and the phase and neutral busbar lengths shall be as detailed on Drawing DR 2399/C Sheet 2 Rev 6.

7.14.3.4. The connection between the transformer LV bushings and the busbars shall be as detailed on Drawing DR 2399/C Sheet 2 Rev 6. These connections shall be solid tinned LV alternative Conductor (CCAA or Al Alloy etc) or flexible tinned LV alternative Conductor (CCAA or Al Alloy etc) or aluminium alloy conductors to approval and so designed that the circuit breakers may be independently removed for replacement.

7.14.3.5. The connections between the transformer LV bushings and the busbars and the connections of the bushing flags onto the spindles shall be fitted with locknuts at each connection point.

7.14.3.6. Phase busbars shall be pre-drilled with 12,5 mm holes suitably positioned for connections to either 3 x large frame MCCB’s or 5 x J25S or equivalent MCCB’s.

7.14.3.7. The neutral bar and earth bar shall have a minimum of eight predrilled 12,5 mm connection holes as detailed in Drawing DR 2399/C Sheet 2 Rev 6.

7.14.3.8. All pre-drilled connection holes on phase busbars, neutral bar and earth bar shall be fitted with M12 stainless steel bolts, nuts and washers.

7.14.3.9. The neutral bar shall be mounted on black nylon stand-off insulators. The insulators shall be rated to withstand a working voltage of 600 V under normal and damp conditions and shall be rated to withstand a high voltage test of 2 kV for 5 minutes.

7.14.3.10. The neutral and earth bars shall be mounted using stainless steel torque shear bolts.

7.14.3.11. The neutral bar shall be connected to the earth bar with a removable solid tinned LV alternative Conductor (CCAA or Al Alloy etc) earth strap as detailed on Drawing DR 2399/C Sheet 2 Rev 6.

7.14.3.12. Terminal markings **c b a yn** (and phase colour indication as specified for the particular Items), shall be positioned above the LV bushings.

7.14.3.13. All external earth connections on the units shall be of Copper-Clad Steel or Aluminium

Alloy. Aluminium conductors are not an acceptable alternative.

7.14.4. Type C Miniature substations – LV Main MCCB

7.14.5. The LV compartment shall be fitted with the main electronic adjustable MCCB.

7.14.6. The Main MCCB shall be connected between the LV bushings and the busbars.

7.14.7. The tripping and holding (non-tripping) currents and maximum tripping time under overload conditions shall be in accordance with SANS 60947-2.

7.14.8. The MCCB operating characteristics for electronic release MCCBs shall not be affected by changes in ambient temperature.

7.14.9. The ratings shall be suitably chosen for each transformer size. The protection settings shall be applied to account for inrush current, overloading and harmonics. These ratings and settings shall be provided in schedule 13B.

7.14.10. Type C Miniature substations – MCCB's and MCCB Backing Plate

7.14.10.1. The moulded case circuit breakers will be provided and fitted by others.

7.14.10.2. The miniature substations shall be fitted by the manufacturer with a 3CR12 corrosion resistant steel backing plate for subsequent mounting of the moulded case circuit breakers.

7.14.10.3. The MCCB backing plate shall be pre-drilled in accordance with Drawing SK 5191 Sheet 1 for the fitting of 3 x moulded case circuit breakers of rating 400 A, 600 A or 800 A arranged as detailed in Drawing DR 2399/C Sheet 2 Rev 6 and for an alternative fitment of 5 x J25S MCCB's of rating up to 250 A.

7.14.10.4. The backing plate shall be positioned generally as detailed in Drawing DR 2399/C Sheet 2 Rev 6. The backing plate (and accordingly the MCCBs) shall be positioned relative to the busbars such that the required separations from earthed and live busbars and conductive parts and minimum arc venting spaces specified by the MCCB manufacturers are maintained. MCCB's currently utilized by the CCT are the CBi Hy-Mag L40B, J25S and M35B types.

7.14.11. Type C Miniature substations – MCCB and LV Busbar Barrier Boards

7.14.11.1. A barrier board, to approval, shall be provided to shield the busbars, the connectors to the MCCB's and the MCCB incoming terminals to prevent inadvertent contact.

7.14.11.2. A further, separate barrier board, to approval, shall be provided to shield the MCCB outgoing terminals to prevent inadvertent contact.

7.14.11.3. Barrier boards shall be so positioned that the access to the operating toggles of the moulded case circuit breakers is not inhibited in any way, and such that these toggles can be operated safely.

7.14.12. Type C Miniature substations – LV Cable Clamping

7.14.12.1. The LV compartment shall be provided with a hot dipped galvanised unistrut and suitable K-clamps to secure a maximum of five 4 core cables ranging in size between 120 mm² and 300 mm². The minimum distance between the outgoing terminal droppers of the moulded-case circuit breakers and the bottom unistrut shall be 530 mm.

7.14.13. Type C Miniature substations – LV Metering

7.14.13.1. LV metering and LV switch compartment door meter windows are not required for the Type C miniature substations.

7.14.14. Smart Requirements - General

7.14.14.1. The RMUs on mini substations shall be fully SCADA ready, fitted as detailed hereunder. Specific details specified in this regard apply solely to these two equipment types.

7.14.14.2. It is the intention that the smart relay, the mini-remote terminal unit, ethernet switch, the radio communications unit and the AC power Supply Unit will be installed at a later stage.

7.14.14.3. All indications, alarms, trip and close coils, terminal strips, small wiring, fibre conduit, housings, equipment mounting boards and other parts and accessories necessary to fulfil the specified requirements shall be included in the tender and provided by the contractor.

7.14.15. Smart Requirements - Housing

7.14.15.1. A Smart Compartment, as specified, shall be provided on the RMU and shall be suitably sized to accommodate the communications related devices and facilities specified hereunder, including the Power Supply Unit, Remote Terminal Unit, Radio Communications Unit, Ethernet Switch, AC Mains and trunking.

7.14.15.2. The Smart Compartment shall be a dedicated compartment mounted internal to the mini-sub enclosure.

7.14.15.3. The communication compartment shall be fitted with a removable wooden backing board (20 mm Blockboard or equivalent to approval) which shall be sized and laid out for the comms. The minimum internal dimensions of the Smart Compartment shall be as detailed in the Technical Schedules.

7.14.15.3.1. The SCADA compartment shall be provided with an Antenna Conduit as specified for the Radio Communications Unit.

7.14.16. Smart Requirements – Wiring

7.14.16.1. Small wiring for all alarms, statuses, indications and auxiliary supply for each of the devices shall be wired from the coils, contacts and switches to a dedicated terminal strip(s).

7.14.16.2. The compartment housing the smart relay shall be fitted with terminal strip(s) marshalling all controls, alarms, statuses and indications from RMU terminals detailed above, and all controls, alarms, statuses, indications shall be wired through to these terminal strips.

7.14.16.3. The smart compartment housing shall further be fitted with AC Mains Supply for communication devices, with a circuit breaker for the clamping and terminating of the incoming AC Mains Cable, of maximum size 10mm^2 Cu 2-core PVC PVC SWA PVC.

7.14.16.4. Mains Supply wiring from the terminal strip in the Circuit Breaker Module MV cable compartment to the AC Mains Supply terminal strip in the Smart compartment is to be supplied and installed by the contractor. AC Mains Supply wiring is to be of minimum size 4mm^2. Wireways between the MV Cable compartments and the Smart compartment shall be grommetted and fully IAC compliant in accordance with the IAC classification and testing.

7.14.16.5. All small wiring shall be fully wired, ferruled and trunked to the relevant sources / destinations.

7.14.17. Smart Requirements – Controls, Indications and Alarms

7.14.17.1. The RMU unit shall be equipped with status indication as follows (in addition to the standard fitment specified within this document):

7.14.17.1.1. Switch-disconnector module shall be supplied with auxiliary swthces as below:

- Disconnector position (2x NO, 2x NC) *(NO: Normally Open; NC: Normally Closed*)
- Earthing switch position (2x NO, 2x NC)

7.14.17.1.2. The ring main unit shall be designed for future retrofitting of motors for remote operation.

7.14.17.1.3. Circuit breaker module: motorised spring charge, trip and close trip coils, auxiliary switches for:

- Circuit breaker position (2x NO, 2x NC)
- Disconnector position (2x NO, 2x NC)
- Earthing switch position (2x NO, 2x NC)
- Circuit breaker tripped

7.14.17.2. The RMUs units shall be equipped with alarms as follows:

7.14.18. Low SF6 gas density

7.14.18.1.1. Door open

7.14.18.1.2. “Close not healthy”, for switch-disconnectors

7.14.18.1.3. “Circuit-breaker not healthy”, for circuit breakers

7.14.18.1.4. “Stored energy mechanism not charged”, for all modules

7.14.18.2. The RMU gas pressure sensor shall be provided with low gas pressure auxiliary contacts and wired to the Communications compartment terminal strip for alarm purposes.

7.14.19. Door Status Monitoring Device

7.14.19.1. A robust door status monitoring device will be installed to monitor the open/close status of mini-substation doors. The device will relay this information to the central SCADA system via a modem to be installed in the smart compartment.

7.14.19.2. The device must include reliable sensors to detect the open/close status of doors.

7.14.19.3. The sensors must work seamlessly with the communication unit to transmit status updates.

7.14.19.4. The device must be capable of connecting to a modem using standard communication protocols (e.g., RS485, Ethernet, or Modbus).

7.14.19.5. Provision for real-time data transmission to SCADA.

7.14.19.6. The device shall operate on 220V AC power. No battery or DC power options are acceptable.

7.14.19.7. The device and its enclosures must comply with SANS 60529 standards and have an ingress protection rating of at least IP66, ensuring protection against dust and high-pressure water jets.

7.14.19.8. The device must comply with SANS 62262 and achieve at least an IK10 impact protection rating.

7.14.19.9. It shall be suitable to operate on an ambient temperature range between -10°C to +55°C; humidity tolerance: Up to 95% non-condensing. It shall be UV-resistant materials to prevent degradation in outdoor installations.

7.14.19.10. The device shall have a minimum service life of 10 years. All components must be modular for easy replacement and maintenance.

7.15. LV Compartment - Type B Miniature substations

7.15.1. Type B Miniature substations – LV Compartment and Fittings

7.15.1.1. The LV compartment of the Type B miniature substations shall be generally in accordance with Figure C.5 of Annexure C of SANS 1029, and shall be divided into an LV end compartment and an LV front compartment which between them shall house the transformer LV bushings, busbars, thermometer pocket, thermostat, over-temperature trip indication, main switch-disconnector, ammeters and voltmeter and associated fittings, moulded case circuit breakers, glands and other fittings as detailed.

7.15.1.2. The LV end compartment shall unless otherwise approved also house the transformer off-circuit tapping switch and oil level gauge.

7.15.1.3. Each miniature substation shall be provided with three combined instantaneous indicating and 15-minute maximum demand flush mounted 96 mm (square) ammeters (one per phase), complete with single ratio current transformers.

7.15.1.4. The miniature substations shall also be fitted with a flush mounted 96 mm² voltmeter and appropriate seven-way selector switch.

7.15.1.5. Street lighting control circuitry is not required in the LV compartment of the Type B miniature substations.

7.15.1.6. A single-phase plug socket protected by 15 A circuit breaker earth leakage unit combination shall be provided.

7.15.1.7. All circuits shall be provided with blank Traffolyte-type designating labels.

7.15.2. Type B Miniature substations – Bushings, Busbars and Connections

7.15.2.1. All LV bushings shall be of porcelain or other insulating material to the approval of the engineer. DMC components or similar will not be accepted.

7.15.3. All bushings shall be provided with individual or mono-block tinned aluminium alloy Palm flag type or similar, with suitable number of holes for fastening.

7.15.3.1. All busbars, neutral bar and earth bar shall be made tinned Bimetalic Busbars (CCAA or Al Alloy etc), colour coded and be so dimensioned that at full load the current density shall not exceed 1,8 A/mm².

7.15.3.2. The neutral bar shall have the same cross-sectional area as the phase busbars.

7.15.3.3. A full length tinned Bimetalic Busbar (CCAA or Al Alloy etc) earth of dimensions equivalent to 31,5 mm x 6,3 mm copper bar and in compliance with SANS 1029 shall be mounted above the gland plate. This shall be connected to the transformer neutral, transformer tank, miniature substation metal works, LV distribution and MV switchgear, using a removable 70 mm² bare stranded tinned LV alternative Conductor (CCAA or Al Alloy etc) or aluminium alloy.

7.15.3.4. The busbar load current carrying capacity and fault current rating shall be in accordance with the transformer rating.

7.15.3.5. The connections of the transformer LV bushing flags onto the spindles and the connections of the LV flexible conductors onto the flags shall be fitted with locknuts at each connection point.

7.15.3.6. The phase busbars, neutral bar and earth bar shall have a minimum of eight predrilled 12,5 mm connection holes.

7.15.3.7. All pre-drilled connection holes on phase busbars, neutral bar and earth bar shall be fitted with M12 stainless steel bolts, nuts and washers.

7.15.3.8. No terminations shall be connected on any of the busbar insulator mounting bolts.

7.15.4. Type B Miniature substations – LV Main Switch

7.15.5. The LV compartment shall be fitted with the main electronic adjustable MCCB.

7.15.6. The Main MCCB shall be connected between the LV bushings and the busbars.

7.15.7. The tripping and holding (non-tripping) currents and maximum tripping time under overload conditions shall be in accordance with SANS 60947-2.

7.15.8. The MCCB operating characteristics for electronic release MCCBs shall not be affected by changes in ambient temperature.

7.15.9. The ratings shall be suitably chosen for each transformer size. The protection settings shall be applied to account for inrush current, overloading and harmonics. These ratings and settings shall be provided in schedule 13B.

7.15.10. Type B Miniature substations – LV Feeder MCCBs

7.15.10.1. The Type B miniature substations shall have mounted provision for six (6) CBi Hy-Mag type L40B circuit breakers in the LV compartment.

7.15.10.2. Provision shall be made for the circuit breakers to be mounted in a single row. Staggered arrangements of the MCCB's will not be accepted.

7.15.10.3. It shall be ensured that the positions of the MCCB's relative to the busbars and relative to each other are such that the required separations and minimum arc venting spaces specified by the manufacturers of the MCCB's are maintained.

7.15.11. Type B Miniature substations – LV Cable Glands

7.15.11.1. The Type B miniature substations shall be fitted with gland plates providing for a minimum of six outgoing LV circuits, as detailed on drawing SK 5188 Sheet 1.

7.15.11.2. The gland plates shall be manufactured from 3 mm 3CR12 corrosion resistant steel and shall not be painted.

7.15.11.3. Glands shall be designed to have a captive cone arrangement for armoured cables, and shall have an IP rating of 65 or better to the outer sheath (without a shroud). Glands shall be supplied by the tenderer.

7.16. High Security Miniature Substations

7.16.1. General

7.16.1.1. High security miniature substations with additional measures intended to improve their vandalism resistance will be considered for use in specific areas of the Purchaser's Area of Supply where persistent vandalism of a severe nature is being experienced.

7.16.1.2. High security miniature substations are separately itemised in the Pricing Schedule and the enhanced measures listed below should be applied to only these specific tender items.

7.16.1.3. All parameters, parts and components of high security miniature substations that are not specifically referred to under this section shall comply fully with the standard miniature substation specification as specified within the balance of this document.

7.16.2. General Construction

7.16.2.1. High security miniature substations shall be of the same general configuration and dimensions as the corresponding standard miniature substations specified in this document and shall fit on the same reinforced concrete plinths.

7.16.2.2. High security miniature substation MV and LV compartment enclosure walls and doors shall be manufactured from 6 mm 3CR12 stainless steel.

7.16.2.3. Transformer tank and bottom and miniature substation roof and channel underbase shall remain as specified within the balance of this document.

7.16.3. Doors

7.16.3.1. High security miniature substation doors shall be flush mounted as specified for standard miniature substations but shall be manufactured from 6 mm 3CR12 stainless steel as detailed above.

7.16.3.2. Doors shall be further reinforced using internal support bracing welded around the entire inner perimeter of the door but set back as required to allow proper clearance from the door frame and hinges.

7.16.3.3. Doors shall be fitted with heavy duty internal, concealed hinges.

7.16.3.4. Doors shall be fitted with a robust four-point locking mechanism with heavy duty bars securing the door at the centre of each side of the frame and operated from a centrally fitted operating mechanism.

7.16.3.5. The door operating mechanism shall be suitable for securing with a padlock. High strength padlocks will be supplied by others.

7.16.3.6. The doors shall be equipped with lock protector boxes, handles and Allen bolt locking facilities as specified for standard miniature substation doors, with the additional requirement that the lock protector box shall be fabricated from 6 mm 3CR12 stainless steel.

7.16.3.7. The means of affixing the lock protector box to the door of the high security miniature substation shall provide commensurate resistance to vandalism to that offered by the enhanced doors and lock protector box. Affixing of the lock protector boxes by continuous weld is preferred, but bolted fitment will be accepted provided that this is demonstrated to provide the required level of vandalism resistance.

7.16.3.8. The four point locking mechanism shall be provided with suitable gearing so that the mechanism can be operated without difficulty using the handle within the lock protector box. Moderate lengthening of the handle (and commensurate widening of the lock protector box) to provide additional leverage will be to the approval of the Engineer and will only be considered provided that this does not increase the vulnerability of the padlock to vandalism with levers or other tools.

7.16.3.9. The door handle shall be in the horizontal position when closed and padlocked so as to place the padlock as far as possible from the opening at the bottom of the lock protection facility.

7.16.3.10. High security miniature substations shall in addition be fitted with four sets of paired raised sacrificial 3CR12 plates for the purpose of welding of doors in the closed position in extreme cases where vandalism conditions warrant this.

7.16.3.11. The paired sacrificial plates shall be welded to the door and the adjacent frame in two positions on the hinged side of the door and two positions on the opening side of the door and shall be positioned such that the door mounted plate overlaps and is in contact with the frame mounted plate when the door is closed and locked.

7.16.3.12. Positioning of the plates shall facilitate the welding of the plates and the later grinding open of the welds without compromising the integrity and finish of the balance of the door.

7.16.4. Tap Changer Compartment and Door

7.16.4.1. The tap changer compartment and door for high security miniature substations with externally mounted tap changers shall be fabricated from 6 mm 3CR12 stainless steel.

7.16.4.2. The tap changer compartment shall be fitted with a lockable recessed door with concealed hinges that provides an appropriate level of vandalism resistance. Locking facilities shall be suitable for padlocks or shall be fitted with integral locks keyed to the Purchaser's standardised locking hierarchy. Padlocks shall be protected against vandalism.

7.16.4.3. The locking facilities shall be backed up by an auxiliary Allen bolt based securing system.

7.17. Ring Main Units

"Ring Main Unit" shall mean a metal-enclosed non-withdrawable switchgear assembly with an external metal enclosure and comprising two non-automatic ring main switch-disconnectors and a circuit breaker tee-off connected in series by a non-extensible common busbar.

7.17.1. Configuration

7.17.1.1. The ring main units shall comprise a combination of non-automatic ring main switch disconnector and circuit breaker modules, as specified, connected in series by a common busbar.

7.17.2. The ring main units shall be single tank, non-extensible units.

7.17.2.1. The extensible switchgear shall comprise single module or multiple module non-extensible

non-automatic ring main switch disconnector, circuit breaker as specified, designed for assembly into switchboards through interconnection with insulated and screened busbar couplings or external busbars. The non-extensible switchgear items shall be of a single make and product range, and tenderers shall tender for all switchgear modules specified (Refer to 2.3.10.4.4 of Conditions of Tender with respect to evaluation and award of dual switch-disconnector modules).

7.17.3. The Ring Main Unit shall be non-extensible.

7.17.4. Ratings

7.17.5. The ring main units shall comply with the ratings specified in the Schedules.

7.17.6. Internal Arc Classification

7.17.7. Ring main units for outdoor installation shall have a minimum internal arc classification as specified in the Schedules, and in accordance with the requirements of SANS 62271-202. This rating shall apply to the complete ring main unit including cable termination enclosures and the weatherproof kiosk, as installed.

7.17.8. Ring main units and extensible switchgear, including metering modules, for indoor installation shall have a minimum internal arc classification as specified in the Schedules, and in accordance with the requirements of SANS 62271-200. This rating shall apply to the complete ring main unit or assembled extensible switchgear switchboard including cable termination enclosures and any necessary pedestals or raising bases, as installed.

7.17.9. Tenderers shall provide detailed information with their tenders covering the installation requirements necessary to ensure compliance with the IAC rating of the ring main units. This shall include the following:

7.17.9.1. Details of any specific requirements for the fixing of the ring main unit, or weatherproof kiosk to the floor or plinth.

7.17.9.2. Details of floor trench and trench cover board requirements and minimum wall and roof clearances for indoor installations.

7.17.10. General Requirements

Design and Construction of Switchgear

7.17.10.1. The ring main units shall comply with the requirements of SANS 1874 and SANS 62271-200 and shall be of fixed pattern design.

7.17.10.2. All primary components of the equipment shall be made and assembled by the same Manufacturer.

7.17.10.3. Only units with proven service history shall be considered.

7.17.10.4. All switching devices shall be operable from the front of the unit.

7.17.10.5. The ring main units shall be provided with lifting eyes with a minimum diameter of 30 mm for lifting or slinging.

7.17.11. Switchgear Dimensions

7.17.11.1. The ring main units, recloser ring main units, bulk metering units and SSEG bulk metering units for outdoor installation, when assembled in their weatherproof kiosks, shall be fully compatible with the requirements for kiosk dimensions and plinth and base frame layouts detailed in Section 8.2 of this specification.

7.17.12. Insulating/Interrupting Medium

7.17.12.1. The ring main units shall be SF6 insulated.

7.17.12.2. Only new SF6 gas complying with the requirements of IEC 60376 shall be used.

7.17.12.3. The gas-insulated switch compartments of the switchgear shall be factory sealed for life for a minimum maintenance-free lifespan of 30 years.

7.17.12.4. The ring main units shall not require routine gas replenishment during normal service.

7.17.12.5. The interrupting medium for the switch disconnectors and circuit breakers shall be SF6 gas or vacuum and shall be detailed in the Schedules.

7.17.13. Monitoring Facility for Insulating Medium

7.17.13.1. An SF6 gas monitoring gauge shall be provided to indicate safe and unsafe gas pressure and shall be visible from the front panel.

7.17.14. Degree of Protection

7.17.14.1. The degree of protection of the weatherproof kiosk for ring main units for outdoor shall be a minimum of IP 44, in accordance with SANS 60529.

7.17.14.2. The degree of protection of all accessible enclosures and compartments of the ring main units shall be a minimum of IP 2X, in accordance with SANS 60529, applicable when all doors are closed.

7.17.15. Accessibility of Compartments

7.17.15.1. The ring main unit gas-insulated switch compartment shall be a non-accessible compartment in accordance with SANS 62271-200.

7.17.15.2. The ring main unit cable termination boxes shall be interlock-controlled accessible compartments in accordance with SANS 62271-200.

7.17.15.3. The ring main unit cable test facility compartments, where applicable, shall be interlock-controlled accessible compartments in accordance with SANS 62271-200.

7.17.16. Partition Class

7.17.16.1. The ring main units shall be of Partition Class PM in accordance with SANS 62271-200, with earthed metallic partitions between live compartments.

7.17.17. Service Continuity Category

7.17.17.1. The ring main units shall be Loss of Service Continuity (LSC) category LSC1 in accordance with SANS 62271-200.

7.17.18. Cable Test Facilities

7.17.18.1. Integral cable test facilities that do not require access to the cable boxes or removal of the separable connectors of the cable termination shall be provided on the switch disconnector modules for the application of test voltages to the associated circuit of up to 19 kV DC or 13 kV AC to earth.

7.17.18.2. Where provided for by the particular switchgear design, integral cable test facilities that do not require access to the cable boxes or removal of the separable connectors of the cable termination shall also be provided on the circuit breaker modules.

7.17.18.3. The cable test facilities shall be accessible from the front of the ring main unit. Test facilities that cannot be directly accessed by an operator standing in front of the indoor ring main unit or extensible switchgear shall not be acceptable.

7.17.18.4. Top mounted test facilities on indoor ring main units and extensible switchgear shall be directly visible to and operable by an operator standing at ground level in front of the ring main unit or extensible switchgear and shall not require the use of ladders or pedestals.

7.17.18.5. Top mounted test facilities requiring the operator to lean into the outdoor ring main unit arc rated weatherproof cubicle shall not be acceptable.

7.17.18.6. The cable test facilities shall not require the use of any loose test plugs or prods.

7.17.18.7. Cable test facilities that require the removal of the cable earth connections shall comply with the requirements for Cable Earthing Facilities below.

7.17.18.8. Access to cable test facilities shall be interlock-controlled to ensure that the test facilities shall only be accessible when the associated earth switch is in the EARTH position, and the cable test facility access shall be capable of being padlocked.

7.17.18.9. The internal arc classification of the ring main unit pertaining to other live compartments or switch modules shall be maintained while the cable test facilities on any particular switch module are accessed.

7.17.18.10. Phase designations and warning notices shall be permanently marked on test terminals, to approval.

7.17.18.11. Thorough details of the cable test facility design shall be provided with the tender documentation.

7.17.19. Cable Earthing Facilities

7.17.19.1. Each ring main switch disconnector, on and circuit breaker module shall be fitted with an integral cable earthing switch that complies with the requirements of SANS 62271-102 and SANS 62271-200.

7.17.19.2. In accordance with SANS 1874, where removable short-circuiting connections are provided for cable earthing (e.g. a removable star point connection) the re-instatement of these connections following cable testing shall not require the use of tools or the application of specific torque settings. This implies that no bolted connections are accepted. It shall not be possible to close the cable test facility if the short-circuiting connections have not been reinstated. It shall not be possible to physically remove the short-circuiting connections from the switchgear.

7.17.19.3. Cable earthing facilities which require the use of loose equipment or attachments shall not be acceptable.

7.17.20. Cable Live Indication

7.17.20.1. A three-phase voltage detection system (VDIS) suitable for the detection and indication of presence and absence of operating voltage and complying with the requirements of SANS 62271-213 shall be provided on each switching devices on the ring main units.

7.17.20.2. The VDIS system shall provide permanent VDIS indication and shall provide for electrical phasing between modules on the ring main units through the use of universal phase comparators (UPCs).

7.17.20.3. All capacitive dividers utilised for live circuit indication shall have been type tested, shall have proven in-service performance history in harsh coastal environments, and shall be individually tested for partial discharge in accordance with the requirements of SANS 60270.

7.17.21. Mechanism Locking Facilities

7.17.21.1. Each ring main switch disconnector and circuit breaker shall be capable of being padlocked in the ON position, the OFF position and the EARTH position in accordance with SANS 1874.

7.17.21.2. Each push button for operation of the ring main unit (eg. Trip / close push buttons circuit breaker modules) shall be fitted with a padlockable metal cover to prevent unauthorised operation.

7.17.21.3. The operating control locking facilities shall be designed to be locked with mini padlocks with 5 mm shackles.

7.17.22. General Interlocks

7.17.22.1. Positive mechanical interlocking shall be provided on the ring main unit, extensible

switchgear and BMU operating mechanisms in accordance with SANS 1874.

7.17.23. Specialised Tools and Equipment

7.17.23.1. Specialised tools necessary for the routine operation of the ring main units, extensible switchgear and bulk metering units offered, including but not limited to operating and spring charge handles, shall be included within the tendered price per item and shall be supplied by the Contractor and securely housed within the housing of each ring main unit, extensible switchgear and bulk metering unit item.

7.17.23.2. Additional specialised tools recommended by the Tenderer shall be individually itemised and priced in the Pricing Schedule.

7.17.24. RMU Rating Plate

7.17.24.1. The ring main units shall be fitted with a rating plate complying with the requirements of SANS 1874.

7.17.25. Marking and Labelling

7.17.25.1. The ring main units shall have markings and labelling as specified in SANS 1874.

7.17.25.2. Single line operating diagrams shall be clearly marked on the front panel of the units.

7.17.25.3. All apparatus and interlocks shall be clearly labelled indicating their purpose, function and operating procedure.

7.17.25.4. All main circuit bushings and test contacts shall be legibly and indelibly marked with the appropriate phase designation assigned to that terminal. The markings shall be one of L1, L2 or L3, as appropriate.

7.17.25.5. The material, method of printing and method of fixing of all labels shall be to the approval of the Engineer. Mechanical methods of fixing are preferred. Rivetted labels shall utilise blind rivets, not standard pop-rivets with a centre hole.

7.17.26. Paper stick-on labels shall not be acceptable.

7.17.26.1. Circuit label material provided for the units shall be of the sandwich board type with black lettering on a white background. The labels shall be left blank for engraving by the Employer.

7.17.26.2. The total mass of the unit (in kilograms) shall be marked on its side or rear. In the case of ring main units for outdoor installation the total mass of the ring main unit and kiosk assembly shall be stencilled on the side of the kiosk in white lettering with a minimum font size of 50 mm (e.g. “TOTAL MASS: 500 kg”).

7.17.26.3. A metallic corrosion-resistant 150 mm x 150 mm Type WW7 warning sign in accordance with SANS 1186 shall be permanently attached to the outside of the weatherproof kiosk doors and also each cable termination compartment cover or door. If pop-rivets are used, only stainless-steel blind pop rivets will be acceptable.

7.17.26.4. Where the ring main unit supplier is not the manufacturer, the supplier shall provide and affix in an approved position a label detailing the supplier’s name or trademark.

7.17.27. Earthing

7.17.27.1. The ring main units shall be provided with earth connection terminals and tinned copper earth bars complying with the requirements of SANS 1874.

7.17.27.2. The earth connection terminal for each metal enclosure and the main tank shall be suitable for the maximum earth fault current specified and shall be of size M12.

7.17.27.3. Two stainless steel nuts and washers shall be provided on each earth connection terminal.

7.17.27.4. All earth bars shall be bonded together providing electrical continuity. All bonding conductors used to interconnect the separate earth bars shall be copper and have a cross-

sectional area not less than that of the ring main unit earth bar.

7.17.27.5. A minimum of 4 holes of diameter suitable for an M12 bolt shall be provided in the earth bar for earth connections.

7.17.27.6. Any earth bars external to the cable termination compartments shall be shrouded or covered in an approved manner to remove them from view and inhibit unauthorised access so as to minimise the possibility of theft.

7.17.28. Painting and Protection against Corrosion

7.17.28.1. The ring main units shall be painted and protected against corrosion in accordance with the requirements of SANS 1874.

7.17.28.2. The gas-insulated switch compartment shall be fabricated from stainless steel.

7.17.28.3. All other sheet steel work shall comprise an approved intrinsically corrosion resistant metal.

7.17.28.4. All external nuts and bolts shall be manufactured from stainless steel. Care shall be taken to ensure that nuts and bolts are not over tightened damaging the threads and preventing nuts and bolts from being loosened and/or retightened.

7.17.29. Switch Disconnector Modules

7.17.29.1. Each switch disconnector shall be a three-pole switch that complies with the requirements for general purpose switches of SANS 62271-103.

7.17.29.2. Switch disconnectors shall be at least Class E2 M1 in accordance with SANS 62271-103.

7.17.29.3. The operating mechanism of switch disconnectors shall provide independent manual closing and opening.

7.17.30. Circuit Breaker Modules

General

7.17.30.1. Circuit breakers shall be three pole devices complying with the requirements of SANS 62271-100 and SANS 1874.

7.17.30.2. Circuit breakers shall be Class C2 E2 M1 in accordance with SANS 62271-100.

7.17.30.3. The rated operating sequence of the circuit breakers shall be O - t - CO - t - CO where t equals 3 minutes, in accordance with SANS 62271-100.

7.17.30.4. The first pole-to-clear factor shall be 1,5 in accordance with SANS 62271-100.

7.17.31. Operation

7.17.31.1. The operating mechanism of the circuit breakers shall provide independent manual closing and stored energy tripping.

7.17.31.2. Circuit breakers shall have a trip-free mechanical switching mechanism.

7.17.32. Protection

7.17.32.1. Each circuit breaker module, shall be fitted with a self-powered protective relay, installed and wired complete for service, as specified below.

7.17.32.2. Each circuit breaker module shall be fitted with ring-core current transformers as specified.

7.17.32.3. Full details of the protective relay and current transformers shall be provided with the tender.

7.17.32.4. Protections settings shall be done by the tenderer to adequately protect each unit.

7.17.33. Self-Powered Protective Relays

7.17.33.1. Protective Relays for all circuit breaker modules shall be self-powered protective relays as

specified below.

7.17.33.2. The self-powered protective relays shall be suitable for use with standard SANS (/IEC) 61869-2 protective current transformers. Self-powered protective relays requiring customised, dedicated CTs will not be accepted.

7.17.33.3. The self-powered protective relays shall provide both over-current and earth fault functions with definite time, normal inverse time, very inverse time and extremely inverse time protection characteristics in accordance with IEC 60255-151.

7.17.33.4. Protective relays shall preferably be housed within the standard fascia of the LV / mechanism compartment of the ring main units.

7.17.33.5. The protective relay installation on the ring main unit shall have a minimum IP rating of IP54 and shall be fully protected against the effects of rain during switching operations on outdoor units. Relays that do not have a minimum intrinsic IP54 rating shall be provided with a gasketted removable transparent cover and / or housing and any other measures necessary to raise the IP rating as specified and provide appropriate weather protection.

7.17.33.6. Protective relays shall be fitted with clearly visible indicators identifying when a relay-initiated circuit breaker trip has commenced timing or has occurred and identifying the specific cause of the trip. The relay shall provide separate protection operation indication for each phase and for earth faults.

7.17.33.7. Protection operation indicators shall continue to indicate after closing of the trip contacts and shall be manually resettable without the need to re-energise the ring main unit on load.

7.17.33.8. Protective relays shall be fitted with an HMI for fault indication and shall have battery back-up to maintain indication and functionality while the ring main unit is without CT power, de-energised or the circuit breaker open, for a minimum period of 72 hours.

7.17.33.9. The HMI shall provide a digital display with a detailed event recording and fault history buffer. This shall record a minimum of two fault events or disturbances.

7.17.34. The relay shall provide load current indication per phase.

7.17.34.1. Protective relay back-up batteries shall be maintenance free, shall have a minimum service life of 10 years, shall be easily replaceable by the user, and shall be of a standard commercially available type. Proprietary battery types unique to the relay type or manufacturer shall not be acceptable.

7.17.34.2. The overcurrent pick-up setting range for relays shall be selectable from 20% to a minimum of 140% of the nominal relay rating in steps of not greater than 2.5%.

7.17.34.3. The earth fault pick-up setting range for relays shall be selectable from 10% to a minimum of 100% of the nominal relay rating in steps of not greater than 2.5%.

7.17.34.4. The protective relay IDMTL overcurrent and earth fault characteristics shall have a minimum time multiplier setting of 0.05 or better and steps of 0.01 or better.

7.17.34.5. The protective relay Definite Time overcurrent and earth fault characteristics shall have time delay settings selectable from 0.04 s to at least 1 s in steps of 0.05 s or better.

7.17.34.6. The Tenderer shall declare in the Schedules the minimum primary current (percentage of CT full load rating) for full relay functionality, the relay “wake-up” time when the circuit breaker is closed onto a fault, and the total fault clearing time from initiation of fault both for circuits on-load (with relay “awake”) and for circuits closed onto a fault, for the circuit breaker modules tendered. Acceptance of relays with high minimum operating currents and slow “wake-up” times in comparison with norms for similar equipment and the Employer’s distribution system requirements shall be at the discretion of the Engineer.

7.17.35. Relay Settings

7.17.35.1. The tenderer shall specify in Schedule 13B, the relay settings such that each miniature substation is adequately protected.

7.17.35.2. The setting shall be applied at the factory before the unit is delivered to purchaser.

7.17.36. Protective Current Transformers

7.17.36.1. Protective current transformers shall be standard CTs complying with the requirements of SANS 61869-2.

7.17.36.2. Protective current transformers shall be of generic applicability and shall not be customised to solely the self-powered protective relay offered.

7.17.36.3. Current transformers shall comply with the ratings specified in the Schedules.

7.17.36.4. Ring-core CTs shall be either fitted over the Type C cable bushing or shall be mounted within the cable compartment and positioned as specified below for cable termination enclosures.

7.17.37. Protection Wiring and Testing Facilities

7.17.37.1. All wiring to the protective relay (e.g. from CTs) shall be terminated onto a terminal block situated in the circuit breaker module, or the separate relay compartment if approved accordingly by the Engineer.

7.17.37.2. The protective relay shall be provided with a dry (potential-free) trip output contact for relay testing purposes which shall be wired to the terminal block.

7.17.38. Busbars

General

7.17.38.1. The busbars for ring main units shall be entirely incorporated within the gas-insulated switch compartment and shall be non-extensible.

7.17.38.2. The busbars for single and dual module extensible switchgear shall be extensible at both sides of the module.

7.17.38.3. Busbar extension shall be achieved through the use of busbar coupling inserts, or through the use of external busbars.

7.17.38.4. Busbar connections, whether by busbar couplings or external busbars, shall be fully sealed to preclude ingress of moisture and shall be maintenance free for the service life of the switchgear.

7.17.38.5. Full design and installation details for the busbar connections shall be provided with the tender documentation.

7.17.39. Busbar Couplings

7.17.39.1. Busbar couplings shall be fully insulated, screened and stress controlled.

7.17.39.2. Busbar couplings shall be designed and tested to provide a tight dielectric seal and to fully preclude the possibility of air voids and partial discharges once assembled.

7.17.39.3. The design provisions for the switch-panel assembly shall ensure that the variations in distance and alignment between adjacent panels are constrained by means of bolted mechanical spacers to within the busbar coupling design tolerances. The busbar couplings shall be suitable for user installation.

7.17.40. Busbar Blanking Plugs

7.17.40.1. Busbar blanking plugs and metal blanking cover plates shall be provided for sealing busbars at the switchboard end.

7.17.40.2. Busbar blanking plugs shall be fully insulated, screened and stress controlled.

7.17.40.3. Busbar blanking plugs shall be designed and tested to provide a tight dielectric seal and to fully preclude the possibility of air voids and partial discharges once assembled.

7.17.40.4. Busbar blanking plugs shall preclude ingress of moisture and shall be maintenance free for the service life of the switchgear.

7.17.41. External Busbars

7.17.41.1. External busbars shall be fully insulated, screened and stress controlled.

7.17.41.2. Bushings on extensible switchgear for connection to external busbars shall be Type C bushings complying fully with the requirements of this specification for MV cable bushings.

7.17.41.3. External busbars shall be provided with blanking plugs / dead end caps for sealing the busbars at the switchboard end. Such blanking plugs / dead end caps shall be firmly and securely fitted in place and shall comply with the specific requirements for busbar blanking plugs stated above.

7.17.41.4. The extensible switchgear shall be provided with protective covers to shroud the external busbars on all sides.

7.17.41.5. The design provisions for the switch-panel assembly shall ensure that the variations in distance and alignment between adjacent panels are constrained by means of bolted mechanical spacers to within the external busbar design tolerances. The external busbars shall be suitable for user installation.

7.17.42. Cable Termination Enclosures, Terminations and Bushings

Cable Termination Enclosures and Terminations

7.17.42.1. Cable termination enclosures shall be air-filled enclosures complying with SANS 876 in all respects.

7.17.42.2. The cable termination enclosures shall be suitable for termination of three core impregnated paper insulated 11 kV cables of up to 120 mm2 with dry type cable terminations complying with NRS 053 (95 kV BIL). All 11 kV cables will be provided, installed and terminated by others.

7.17.42.3. The cable termination enclosures shall be suitable for Type 2 shrouded and Type 3 unscreened separable connector terminations.

7.17.42.4. Cable termination enclosures with cable bushings at staggered heights will not be accepted.

7.17.42.5. The height of the cable termination enclosures for switch disconnector and Circuit breaker tee-off modules shall be a minimum of 650 mm, measured from the centre line of the cable bushings to the gland plate or cable support clamp.

7.17.42.6. Where ring-core current transformers are required for the circuit breaker modules, the height of the cable termination enclosures shall be a minimum of 800 mm, measured from the centre line of the cable bushings to the gland plate or cable support clamp.

7.17.42.7. It shall be ensured by the Tenderer that the cable termination enclosure is of sufficient height to terminate the specified three core impregnated paper insulated 11 kV cables safely and to provide sufficient space for cable core crossings below the current transformers, even if this entails providing a cable termination enclosure of greater than the specified minimum height.

7.17.42.8. Cable termination enclosures shall be designed to allow the easy removal of the current transformers while the cable termination is in progress and the easy refitment of the current transformers when the completed cable termination is being mounted in place within the enclosure.

7.17.42.9. The current transformers shall be mounted such that they are positioned over the screened portion of the three cores 11 kV PILC cable termination but provide sufficient clearance for core crossings below the current transformers.

7.17.42.10. The cable termination enclosures shall be fitted with internal arc rated removable covers in accordance with the internal arc classification of the ring main unit.

7.17.42.11. Any breathing and/or drain vents in the cable termination enclosures necessary to prevent condensation or to facilitate draining shall be suitably vermin proofed.

7.17.43. Cable Clamping and Gland Plate

7.17.43.1. Each cable termination enclosure shall be provided with a cable support clamp suitable for clamping of 35 mm2 - 120 mm2 PILC DSTA cable.

7.17.43.2. The cable clamp shall be positioned in the cable termination enclosure or in the pedestal or raising base, as required in order to comply with the specified height and shall be so designed that the cable is firmly secured but that no stress due to bending is placed on the cable when terminated. Any other arrangements for securing of the cables shall be subject to the Engineer's approval.

7.17.43.3. The cable termination enclosure or the pedestal or raising base (where present) on ring main units and extensible switchgear for indoor installation shall be provided with a steel gland plate in accordance with the requirements of SANS 1874 which shall be designed and tested to withstand the pressure rise associated with an internal arc fault and to cause the arc energy to be directed through the pressure relief facilities provided. Such gland plate shall prevent the purging of overpressure and arc flash associated with an arcing fault into the cable trench.

7.17.43.4. The gland plate shall be suitable for assembly around the cable after making off of the cable termination and shall not require disassembly or removal of the front side of the cable termination compartment or raising base. The gland plate shall be provided with a rubber grommet to ensure a tight seal between the gland plate and cable.

7.17.43.5. Alternative gland plate and cable seal designs shall be to the Engineer's approval.

7.17.44. Cable Bushings

7.17.44.1. Cable bushings on all modules shall be Type C bushings complying with EN 50181.

7.17.44.2. The bushings shall have an M16 x 2 thread and be suitable for the use of unscreened separable connectors (USCs). The USCs currently in use are the Raychem RICS 5-series and 3-series.

7.17.44.3. The cable bushings shall be orientated in the horizontal axis and suitable for cable terminations using the 90° elbow shaped USCs detailed above, with vertical cable tails.

7.17.44.4. The bushings shall be fitted with M12 stainless steel reducing stems and M12 nut, washer and spring washers.

7.17.44.5. The bushings shall be manufactured and tested in accordance with SANS 60137. In addition to the voltage test specified in SANS 60137 the bushings shall be partial discharge tested in accordance with the requirements of SANS 60270. The magnitude of the discharge shall not be greater than 5 pC.

7.17.44.6. The surface of the bushings shall be smooth and free from blemishes and patches or fillings.

7.17.44.7. The bushings shall be made from insulating material to the approval of the Engineer. Dough moulded compound cable bushings are not acceptable.

7.17.45. Earth Fault Indication Equipment

7.17.45.1. One set of approved earth fault indication equipment comprising a split core current sensor and a self-powered control and indicating unit shall be provided with each ring main unit.

7.17.45.2. The control and indicating unit shall provide for manual resetting, with an automatic self-resetting facility with selectable time delay.

7.17.45.3. The sensitivity of this equipment shall be such that a current imbalance less than 50 A but not less than 25 A will operate the relay.

7.17.45.4. Earth fault indicators shall be powered by long-life battery. Tenderers shall provide with

their tender full details of the battery, its expected life under normal service conditions, the means of verifying battery condition, and the routine maintenance and replacement requirements.

7.17.45.5. Only equipment proven on 12 kV systems will be considered. Full details of the earth fault indication equipment offered are to be submitted with the tender.

7.17.45.6. The control and indicating unit shall be mounted on the ring main unit such that it is clearly visible and accessible to the operator from the operating side (i.e. front) of the ring main unit (with the enclosure doors open in the case of ring main units for outdoor installation).

7.17.45.7. The earth fault indicator current sensor shall be wired to and temporarily secured onto the cable support clamp fitted in the left-hand side switch disconnector cable termination enclosure (when viewed from the front of the ring main unit).

7.17.45.8. All wiring between the control and indicating unit and the current sensor shall be routed behind the front fascia of the ring main unit.

7.17.45.9. The earth fault indication equipment shall in addition be supplied with a remote indicator which shall be mounted on the outside of the enclosure in such a manner that it can be clearly viewed from the front of the enclosure without having to open the enclosure. The remote indicator shall be visible during daylight and protected against vandalism by means of a steel tube fitted around the indicator and welded onto the enclosure.

7.17.45.10. The control unit and remote indicator shall not be mounted onto any removable sections of the enclosure and no wiring shall pass through these sections. If the remote indicator is mounted on the enclosure door it shall be situated as close as possible to the hinge side.

7.17.45.11. The earth fault indication equipment shall be equipped with a suitable communication protocol to integrate with modem, to transmit healthy and fault statuses to the central Scada, additionally, there must be means to know when the device is not functional.

7.17.45.12. The earth fault indication equipment shall either be self-powered or ac-powered or both.

7.17.46. Phase Comparators

7.17.46.1. Phase comparators for electrical phasing-out on the VDIS cable live indication system shall be portable, not integrated, hand-held Universal Phase Comparators complying fully with the requirements of SANS 62271-213.

7.17.46.2. Phase comparators shall provide clear and unambiguous indication of voltage-in-phase and voltage out-of-phase via separate LED indicators (coloured green and red, respectively), and shall be fitted with push button operation, low battery indication and functionality self-test.

7.17.46.3. Phase comparators shall be provided with phasing leads long enough to permit the phasing out across a minimum of four panels.

7.17.46.4. The phase comparators, leads and ancillary equipment shall be housed in a suitable rigid case, to approval.

7.17.46.5. 8.9 Maintenance Requirements

7.17.46.6. 8.9.1 The switchgear offered shall not be excessively maintenance intensive and shall be designed to be compatible with a maintenance cycle of not shorter than three years. However, a minimum period of five years would be a recommendation. The maintenance period and maintenance recommendations shall be clearly stated by the manufacturer in the tender documentation.

7.17.46.7. 8.10 RMU Training

7.17.46.8. 8.10.1 Tenderers shall include a separate price in the Price Schedule and a proposal for training of the Purchaser’s staff to maintain and operate the RMU supplied with the miniature substations.

7.17.46.9. 8.10.2 The training shall include, but not be limited to, theory of operation, detailed

overview of equipment, interlocks and safety features, commissioning, preventative maintenance, maintenance manual review, testing, troubleshooting and configuration, repairs, and a practical demonstration.

7.17.46.10. 8.10.3 The training instructors shall be South Africa based staff members of the RMU OEM or their Agent and shall have been certified by the RMU OEM as training instructors in the particular equipment offered.

7.17.46.11. 8.10.4 The instructors shall have a complete and thorough knowledge of the equipment and course materials and shall have proven prior experience in conducting the specified training.

7.17.46.12. 8.10.5 As the training may need to be conducted on more than one occasion during the contract period the training interventions shall neither require nor be priced to be conducted by overseas equipment specialists. Training interventions that appear excessively priced will be tested for reasonableness in accordance with the provisions of the Conditions of Tender and these items (and the associated miniature substation items) will not be awarded without full and acceptable justification and detailed breakdown of costing by the Tenderer.

7.17.46.13. 8.10.6 Each course participant shall receive a copy of the training manuals and other documentation used during the training courses. All documentation shall be in English.

7.17.46.14. 8.10.7 All training will be undertaken at the Employer's premises.

7.17.46.15. 8.10.8 The training shall be given to classes of maximum size of 20 individuals and the training course per class shall be conducted and completed over a single, full day.

7.17.46.16. 8.10.9 The full training intervention shall cover five separate classes and be completed in a single week of five working days (Monday to Friday), with a maximum expected attendance of 100 individuals.

7.17.46.17. 8.10.10 On completion of the training each candidate shall be provided with certification of attendance of the course, with copies of the certification being provided to the Employer.

7.17.46.18. 8.10.11 The price for each training intervention shall cover the complete training and include all preparation, travelling, accommodations and incidental costs including all course materials. The price tendered in the Pricing Schedule shall be for the full training intervention (ie. One week (five working days) encompassing five repeats in succession of the single day course). The training price is not a price per person or a price per day.

7.17.46.19. 8.10.12 The training shall include the provision of manuals, all the necessary reference documentation and detailed drawings. All documentation shall be in English.

7.17.46.20. 8.10.13 The training per group shall be completed within a single day and the full training intervention should be planned for completion within five working days.

7.17.46.21. 8.10.14 Any special tools shall be identified and if not included shall be quoted for separately.

7.17.46.22. 8.10.15 The Purchaser reserves the right to not award the training item if training on the RMU offered is already covered by training interventions in other existing contracts.

7.17.46.23.

8. Drawings And Information

8.1. Drawings

Tenderers shall submit with their tenders the following drawings to enable the Purchaser to verify the compliance of the equipment offered with the specification:

8.1.1. Fully dimensioned drawings indicating the general arrangement of the transformers and miniature substations. GA drawings shall include clear detail of the overall outer dimensions of the equipment with doors fully open and closed, and full base frame detail and dimensions indication dimensional

and IAC compatibility with the specified concrete plinth layout. In the case of the miniature substations the specified concrete plinth shall also be depicted on the GA drawing in an as-installed position, in both Plan and Section view, detailing all base frame members and dimensions and concrete plinth and cable cut-out compatibility.

8.1.2. For miniature substations, fully dimensioned arrangement drawing for the ring main unit showing all operating and cable test facilities, cable boxes, cable clamping, cable termination arrangements and clearances between bushings and from bushing centres to earth.

8.1.3. Section drawings of the ring main unit showing general details of construction and all principal components and dimensions, including internal arc overpressure relief designs and provisions as offered for each miniature substation type and energy paths for each main compartment.

8.1.4. Full electrical schematic diagrams for miniature substations, transformers and ring main units, including LV compartment layout drawings, shunt tripping schematics and equipment details, and electrical interlock schematics.

8.1.5. A drawing for Dyn7 and for Dyn11 transformers indicating the full rating plate layout as specified including the Vector Diagram with correct terminal names and winding numbering *A, B, C, a, b, c* or *yn*.

8.1.6. In addition, the general arrangement and electrical schematic diagrams shall be resubmitted by the successful Tenderer after contract award for formal approval before manufacture of the equipment is commenced. The Contractor shall provide one electronic copy (in DXF and pdf formats) of each approved drawing for the Purchasers records before commencement of deliveries.

8.1.7. The following standard drawings as referred to in the technical specification are issued with this tender document and are appended hereto. Electronic copies of the drawings may be requested from the City's tender representative, via e-mail to the address detailed on Pg. 4, General Tender Information.

DR 2399/A Sh 1	Standard 3-Way LV Switchbox for 200 – 1000kVA Distribution Transformers
DR 2399/A Sh 3	Low Voltage Switchbox Detail for 200 – 1000kVA Transformers
DR 2399/B Rev 2	LV Switchbox Suitable for 100kVA 200kVA PM Transformers
DR 2399/C Sh 1 Rev 14	LV switchbox Assembly for 200 – 1000kVA Distribution Transformers
DR 2399/C Sh 2 Rev 6	LV switchbox Assembly for 200 – 800kVA Type C Mini Substations
DR 2399/C Sh 3 Rev 2	LV switchbox Assembly for 100 & 200kVA Pole Mounted Transformers
SK 5180 Rev 1	Concrete Mini-sub–Slab Type CS (Type C Mini-sub with SF6 RMU)
SK 5188 Sh 1	Low Voltage Gland Plate
SK 5191 Sh 1	200 – 1000kVA CCT MCCB Mounting Plate
SK 5191 Sh 2 Rev 2	Detail of Door Lock Protection
SK 5191 Sh 4 Rev 1	Detail of Flush Mounted Door and Three Point Locking Mechanism
SK 5206	Pole Mounted Transformers – Detail of Mounting Arrangement
SK 5242 Sh 1	Split Gland Plates – General Arrangement and Gland & Blank Plates
SK 5242 Sh 2	Split Gland Plates – Front, Centre & Back Plate Details

Table 1: Drawings issued with the tender specification

8.2. Instruction Books

Copies, in English, of operating and maintenance instructions covering each type of equipment provided shall be supplied by the Contractor before delivery, and these shall include full detailed drawings. A copy shall also be provided on CD ROM in Portable Document Format (pdf). These shall include a comprehensive spare parts catalogue.

9. Particulars

9.1. Tenderers shall submit with their tenders' full particulars of the equipment offered and shall complete in full the returnable schedules attached hereto.

9.2. Sufficient technical data, diagrams, drawings and relevant information shall be submitted with the tender to enable the characteristics and merits of the equipment offered to be ascertained, including

the design provisions to ensure that the units are fully weatherproof. Drawings complying with the requirements laid out above shall accompany the tender submission.

9.3. The Returnable Schedules shall be completed in full with particulars of the Goods offered. Tenderers shall detail actual particulars, parameters or dimensions specific to the Goods offered and shall not simply refer to other standards or specifications.

9.4. Tenderers who are not the Original Equipment Manufacturers (OEMs) of the Goods detailed in the Price Schedule shall provide a letter from the OEM of the relevant Goods verifying that they are an authorised reseller or distributor of those Goods. Such Tenderers shall include details of their experience as authorised resellers or distributors of the Goods detailed in the Price Schedule as an annexure to Schedule 13D.

9.5. Tenderers shall tender for a single manufacturer only per Goods item, either the Tenderer or a separate OEM as envisaged above. The Tenderer is required to commit to the single manufacturer per item for the full duration of the contract and is to provide the detailed particulars and drawings as listed above that are specific to that manufacturer.

9.6. Tenderers shall submit their Company Organogram, and in addition a Company Organogram for the OEM if the Tenderer is not the OEM. Organograms shall detail the structure of the Tenderer's and OEM's companies and the relationships between the tendering, manufacturing, technical support, quality assurance and administrative staff, departments, and duties within each company.

9.7. The manufacturers and the places of manufacture, testing and inspection of the various portions of the Works shall be stated in the Schedules together with full details of the location and capabilities of their service / repair facility situated closest to Cape Town. Any changes shall only be made with the written agreement of the Engineer, and the Contractor shall ensure that the manufacturers and places of manufacture are acceptable to the Engineer.

9.8. Information should also be submitted detailing the quantity of similar distribution transformers and miniature substations manufactured and supplied by the Tenderer and in service in South Africa, as well as the details of existing users of the equipment tendered.

9.9. Tenderers shall submit a factory Quality Assurance Plan detailing the overview of the programme of quality control and inspection activities which will be performed during manufacture in order to ensure that on completion the transformers and miniature substations comply with the requirements of the specification.

9.10. All apparatus should comply with this Specification. Any departures from the requirements of this Specification or non-compliance shall be stated by the Tenderer clause-by-clause in the returnable schedules and may be accepted at the Engineer's discretion. Undisclosed non-compliance with requirements of the Specification by the successful Tenderer shall result in the Tenderer being bound to the requirements of the Specification.

9.11. No departure shall be implemented without the prior approval of the Engineer.

9.12. The Contractor shall be responsible for any discrepancies, errors or omissions in the particulars and guarantees, whether or not such particulars and guarantees have been approved by the Engineer.

9.13. All details given in this Specification and the drawings forming part of it have been carefully compiled but the onus is on the Tenderer to satisfy himself as to the accuracy thereof.

10. Packing And Delivery

10.1. The Contractor shall be responsible for the packing, loading, transport and off-loading of the Goods from the place of manufacture, whether this is at his own works or those of any supplier, to the Purchaser's Electricity Stores and shall provide all labour, plant and material necessary for the off-loading. The Tenderer shall make adequate provision in the tender pricing for the delivery and off-loading at any of the Purchaser's Electricity Stores.

10.2. The method of packing shall provide adequate protection for transportation of the Goods contained within. The method of packing and precautions to be taken during transport shall be clearly marked

on the appropriate drawings.

10.3. Any loose parts shall be boxed in substantial crates or containers to facilitate handling in a safe and secure manner. Each crate or container shall be marked clearly on the outside of the case to show where the mass is bearing and the correct position for the slings. Each crate or container shall also be marked with the notation of the part or parts contained therein, contract number and port of destination, and shall become the property of the Purchaser after delivery.

10.4. Loose ancillary equipment for each ring main unit shall be packed in a separate case. The case shall be clearly marked on each face with the case number and a typewritten packing list shall be affixed and a copy despatched to the Engineer giving full and clear details of the contents of the case. Any special storage/handling requirements, shelf-life limitations etc. shall be clearly indicated.

10.5. Any damage due to defective or insufficient packing or that occurs during loading, transport or off-loading of the Goods shall be made good by the Contractor at his own expense and within reasonable time when called upon by the Purchaser to do so.

10.6. The Contractor shall inform himself fully as to all relevant transport facilities and requirements and loading gauges and ensure that the equipment as packed for transport complies with the South African highway regulations and/or conforms to the limitations of the transport facilities of Transnet Ltd. The Contractor shall also be responsible for verifying the adequacy of any cranes required for off-loading at the port of entry, at the Purchaser's Electricity Stores and at Site.

10.7. The Contractor shall take reasonable steps to prevent damage to any highways or bridges by his traffic and shall select routes, choose and use vehicles and restrict and distribute loads so that the risk of damage shall be limited as far as is reasonably possible. The Contractor shall immediately report to the Engineer any claims made against him arising out of alleged damage to a highway or bridge.

10.8. Access to the Stores is by road only.

11. Delivery Period

11.1. The specified delivery period per item is detailed in the Price Schedule.

11.2. Tenderers shall detail in the space provided in the Price Schedule the tendered delivery period per item. Tendered delivery periods that exceed the specified delivery period will be to the approval of the Engineer.

11.3. The contracted delivery period shall be the specified delivery period or an alternative tendered delivery period that has been considered and formally approved by the Engineer at the time of tender award.

11.4. The Contractor shall deliver Goods ordered from time to time in accordance with this tender within the contracted delivery period unless specifically approved to the contrary by the Engineer.

11.5. The Contractor shall on placement of new purchase orders by the Purchaser prepare a detailed delivery schedule and submit this to the Engineer within 5 working days of the placement of the orders.

11.6. In cases where large quantities of Goods are ordered simultaneously staggered deliveries that extend beyond the contracted delivery period may be considered provided that the delivery schedule has been formally approved by the Engineer.

11.7. Contract deliveries that exceed the contracted delivery period and for which the extended delivery period has not been formally approved by the Engineer will be subject to penalties in accordance with Clause 22 of the Special Conditions of Contract.

12. Tests And Inspections

12.1. Inspections

12.1.1. During manufacture and prior to despatch the ring main units, transformers and assembled miniature substations will be inspected by the Engineer or his duly appointed representative who will call for

such tests as he may consider necessary. To this end, the Engineer or his representative shall, during normal working hours, be given all reasonable access and facilities for the carrying out of his duties and shall have the right of entry into the factory of the manufacturer and the factory of any sub-contractor to the manufacturer, where work in accordance with this specification may be in progress.

12.1.2. Before the despatch of any transformer, miniature substation or ring main unit from the factory of manufacture it shall have been inspected by the Engineer, or his duly appointed representative and an Acceptance Certificate shall have been issued. The manufacturer shall notify the Engineer at least one week in advance of the proposed dates for final inspections, and units shall be fully completed prior to the day of the final inspection.

13. Type Tests

13.1.1. The switchgear, transformers and miniature substations shall have passed such type tests as are laid down in SANS 780:2021 (edition 5.1), SANS 60076-1, SANS 1029, SANS 1874, SANS 60282-1, SANS 62271-200, SANS 62271 202, and shall comply with these specifications.

13.1.2. Such type tests shall include short circuit withstand tests of transformers (for all Transformer ratings, and subject to the provisions detailed below for use of Reference Transformer type tests where compliant with the Similar Transformer provisions), and determination of sound level tests, as detailed in SANS 780:2021 (edition 5.1) (Special Tests).

13.1.3. Temperature rise tests on miniature substations shall be done in accordance with section 7.5 of SANS 62271-202. The temperature rise test shall be done after tender award, on the largest rated unit awarded to the tenderer

13.1.4. The tests shall have been conducted by an accredited independent test laboratory and approved by the Engineer. The testing laboratory shall be accredited by a national accreditation body that is a member of the International Laboratory Accreditation Cooperation.

13.1.5. The Tenderer shall submit with his tender a Schedule of Type Tests and specified Special Tests detailing all completed type and special tests applicable to each item tendered, as specified. The schedule shall detail the full description of the item tested, the test authority, the test certificate numbers, the applicable standard and the specific tests covered by the certificate.

13.1.6. The Tenderer shall submit copies of the cover sheets, the tested equipment detail pages and the results summaries for the type test certificates detailed in the Type Tests Schedule, as well as certificates of rating.

13.1.7. Tenderers shall not submit the full type test certificates but only the relevant pages detailed above. The full type test certificates shall be made available to the Engineer for review on request.

13.1.8. Only identical units to those successfully type tested or, in the case of transformers, units defined as Similar Transformers (in accordance with SANS 60076-5 Annex B) to the Reference Transformers that have been type tested will be acceptable. Non-applicable type test certificates should not be submitted. Tenderers shall submit copies of complete detailed drawings of internal connections and facilities as type tested.

13.1.9. Where the Tenderer is invoking the SANS 60076-5 Similar Transformers definition to justify the applicability of a type test carried out on a Reference Transformer unit of different rating, the Tenderer shall clearly indicate this in the Schedule of Type Tests detailed above, per instance, detailing the certificate number that is deemed to be applicable and including clear justification explaining why the Similar Transformers definition is applicable with clear reference to the relevant sub-clause.

13.1.10. <u>Tests may be waived by the Engineer.</u>

13.1.11. In the event that for any specific tender Item no tenders received have valid and acceptable short circuit withstand test certificates the City reserves the right to assess the ability of the transformer design tendered to withstand the thermal and dynamic effects of short circuit by means of a design review in accordance with SANS 60076-5 by a city appointed independent transformer quality expert.

13.1.12. To this end tenderers offering transformers and miniature substations that are not covered by valid

and acceptable short circuit withstand test certificates shall include with their tender submission a detailed Design Sheet and short circuit calculations for the purpose of design review. Where design review is required for any Item(s) the city will choose the two (or more) highest ranking otherwise technically compliant tenders for the particular Item(s) for design review. Such review shall be conducted prior to the award of tenders. Designs found to be inadequate in the design review process will be deemed to be non-responsive.

13.1.13. Tenders for which detailed Design Sheets are required but are not submitted with the tender submission will not be considered further (i.e. will be considered Non-responsive) for those Items. This is as later submission of detailed Design Sheets or inspection of such at the manufacturer's premises would provide an unfair advantage that is not afforded to those who completed and submitted detailed designs prior to the tender submission deadline, in compliance with the Specification.

13.2. Routine Tests

13.2.1. Routine tests as specified in SANS 780:2021 (edition 5.1), SANS 1029, SANS 1874, SANS 62271-200, SANS 62271 202 and other applicable standards shall be carried out on all units prior to dispatch and shall be witnessed by the Engineer or his duly appointed representative.

13.2.2. In addition to the routine tests laid down in SANS 60076-1 and Section 10.2 of SANS 780:2021 (edition 5.1) (to be performed on all transformers), sound level tests shall be carried out once – off on each transformer and miniature substation rating awarded to the tenderer. The test shall determine the total sound level in accordance with the provisions of SANS 60076-10. Such tests shall determine total sound level including contributions due to both no-load excitation and load current and shall prove ongoing compliance with the SANS 780:2021 (edition 5.1) audio sound level limits.

13.2.3. Insulation resistance Megger readings of MV phase to LV phase, as well as MV and LV phase to earth (neutral to earth link removed) shall be taken after assembly and in the presence of the Engineer. The minimum acceptable readings for the high and low voltage sides are 2 000 MΩ and 500 MΩ at 2 kV minimum, respectively.

13.2.4. Routine factory tests shall include testing of shunt tripping facilities on miniature substations to verify set points and prove correct operation, and manufacturers shall issue certification accordingly.

13.2.5. Factory manufacturing and assembly check sheets and test sheets shall include routine factory tests / inspections to verify correct bushing fitment and torque settings for bushing fasteners, as a means of addressing ongoing problems of insidious oil seepage following delivery. The Engineer reserves the right to carry out inspections and to inspect QA check sheets at manufacturing and assembly hold points prior to filling and sealing of tanks in order to verify correct bushing fitment and torquing.

13.2.6. PCB free / oil compliance test certificates shall be submitted to the Purchaser per batch of transformers or miniature substations, certifying that the oil used in the transformers complies with the required standards. Such certificates shall reference the full range of transformer serial numbers covered by the oil compliance test certificate.

13.2.7. Certificates giving the full results of all tests made on the equipment shall be submitted to the Engineer by the Contractor for approval prior to or at the time of delivery of the equipment. All routine test certification shall be dated and signed by the manufacturer's test engineer. Equipment will not be formally accepted until such time as full routine test certification has been submitted and approved.

13.2.8. In addition, all routine test certification shall be submitted electronically (in pdf format) to the Engineer prior to delivery of the equipment, for the Purchaser's records.

14. Contract Award

14.1. Main and Standby Contractors

14.1.1. The CCT intends to appoint two tenderers (the highest ranked tenderer ("*the winner*") and in addition a of one "*alternative tenderer*") for the allocation of work per item. If insufficient responsive bids are received, the CCT reserves the right to appoint fewer tenderers, or not to appoint any tenderers at all.

14.1.2. Purchase Orders will in the first instance be placed by the Employer with the Main Contractor.

14.1.3. Should the Main Contractor not be able to meet the contractual commitments relating to a particular order or orders, either in terms of delivery performance or of compliance with the requirements of the specification, the Contractor shall advise the CCT within 5 working days of receipt of the order(s). The purchase order(s) will thereafter be cancelled and orders placed with the Standby Contractor.

14.1.4. Should the Main Contractor continually fail to meet the contractual commitments the CCT reserves the right to initiate the Default process, during which the Contractor will be afforded an opportunity to address in consultation with the CCT his contract performance and failure to meet the contractual commitments.

14.1.5. During the course of any such Default process the CCT reserves the right to place orders with the Standby Contractor instead of the Main Contractor and shall retain this right until such time as the Main Contractor has either corrected the non-compliance with the contractual commitments or has provided a proposal to correct the non-compliance with the contractual commitments that is to the satisfaction of the CCT.

14.1.6. In the event that the Main Contractor is formally placed in Default in terms of the specification the contract shall be placed with the Standby Contractor for the balance of the contract period.

14.2. Continuity of Equipment and Suppliers / Manufacturers

14.2.1.1. Contract award will be based upon the technical information supplied with the successful Tenderer's or Tenderers' submissions, and no changes in the equipment tendered or in the equipment Supplier(s) / Manufacturer(s) will be permitted during the validity period of the contract. Changes sought by the Contractor due to exceptional circumstances should be requested formally by the Contractor and will be subject to the prior formal approval of the Engineer.

14.3. Award of Tender per Item

14.3.1. Tender Items F3 to F9 are split gland plates and related cover plate accessories required for stock as spares for Dyn7 Distribution Transformers. These are thoroughly specified and will be interchangeable between manufacturers, and for economies of scale these Items will all be awarded to a single Tenderer on the basis of a typical basket of goods including each of these Items.

14.3.2. It is the intention that Item F1 (RMU Training) and F2 (Transformer Design) will be awarded to each Tenderer who is awarded any of the miniature substation Items, Items C1 to C12 and D1 to D8. However, the Purchaser reserves the right to not award the training item in cases where training on the RMU offered is already covered by training interventions in other existing contracts.

14.3.3. All other Items will be awarded individually on the basis of price and preference per Item.

15. Quantities

15.1. The approximate annual quantities that may be purchased in accordance with the tender are as indicated in Table 2 below.

15.2. Tenderers should note that these quantities are provided only for the purpose of indicating approximate usage levels per Item and are anticipated approximate quantities only. Actual annual quantities required during the contract period may vary widely from these numbers and could be greater or smaller quantities.

15.3. The Employer will order only those quantities that are actually required from time to time and on certain Items may not order any quantity at all depending on project and customer demand.

Item No.	Description	SAP Material Number	Approximate Annual Quantities Required
Item Category A: Pole Mounted Transformers:			
A1	50 kVA, 11 kV/420 V, Dyn7, 3Ø pole mounted transformer fitted with MV bushings and LV switch compartment, as specified	59508000169668	2
A2	100 kVA, 11 kV/420 V, Dyn7, 3Ø pole mounted transformer fitted with MV bushings and LV switch compartment, as specified	200008514	2
A3	200 kVA, 11 kV/420 V, Dyn7, 3Ø pole mounted transformer fitted with MV bushings and LV switch compartment, as specified	200008516	2
A4	50 kVA, 11,5 kV/420 V, Dyn11, 3Ø pole mounted transformer fitted with MV bushings and LV switch compartment, as specified	00E01138	2
A5	100 kVA, 11,5 kV/420 V, Dyn11, 3Ø pole mounted transformer fitted with MV bushings and LV switch compartment, as specified	200008544	4
A6	200 kVA, 11,5 kV/420 V, Dyn11, 3Ø pole mounted transformer fitted with MV bushings and LV switch compartment, as specified	200008531	1
A7	315 kVA, 11,5 kV/420 V, Dyn11, 3Ø pole mounted transformer fitted with MV bushings and LV switch compartment, as specified	200013927	1
Item Category B: Distribution Transformers			
B1	200 kVA, 11,66 kV/420 V, Dyn7, 3Ø hermetically sealed distribution transformer fitted with an MV cable box and LV switch compartment, as specified	200008517	1
B2	315 kVA, 11,66 kV/420 V, Dyn7, 3Ø hermetically sealed distribution transformer fitted with an MV cable box and LV switch compartment, as specified	200008518	4
B3	500 kVA, 11,66 kV/420 V, Dyn7, 3Ø hermetically sealed distribution transformer fitted with an MV cable box and LV switch compartment, as specified	200008519	5
B4	800 kVA, 11,66 kV/420 V, Dyn7, 3Ø hermetically sealed distribution transformer fitted with an MV cable box and LV switch compartment, as specified	200005581	10
B5	1 000 kVA, 11,66 kV/420 V, Dyn7, 3Ø hermetically sealed distribution transformer fitted with an MV cable box and LV switch compartment, as specified	200005572	10
B6	200 kVA, 11,5 kV/420 V, Dyn11, 3Ø hermetically sealed distribution transformer fitted with an MV cable box and LV switch compartment, as specified	200008520	1

B7	315 kVA, 11,5 kV/420 V, Dyn11, 3Ø hermetically sealed distribution transformer fitted with an MV cable box and LV switch compartment, as specified	200008543	1
B8	500 kVA, 11,5 kV/420 V, Dyn11, 3Ø hermetically sealed distribution transformer fitted with an MV cable box and LV switch compartment, as specified	200008542	2
B9	800 kVA, 11,5 kV/420 V, Dyn11, 3Ø hermetically sealed distribution transformer fitted with an MV cable box and LV switch compartment, as specified	200008532	1
B10	1 000 kVA, 11,5 kV/420 V, Dyn11, 3Ø hermetically sealed distribution transformer fitted with an MV cable box and LV switch compartment, as specified	200008546	1
	Item Category C: Miniature Substations:		
C1	200 kVA, 11,66 kV/420 V, Dyn7, Type C, 3Ø miniature substation fitted with MV switchgear and an LV switch compartment, as specified	200005574	4
C2	315 kVA, 11,66 kV/420 V, Dyn7, Type C, 3Ø miniature substation fitted with MV switchgear and an LV switch compartment, as specified	200000185	8
C3	500 kVA, 11,66 kV/420 V, Dyn7, Type C, 3Ø miniature substation fitted with MV switchgear and an LV switch compartment, as specified	200005389	35
C4	800 kVA, 11,66 kV/420 V, Dyn7, Type C, 3Ø miniature substation fitted with MV switchgear and an LV switch compartment, as specified	200005390	40
C5	1000 kVA, 11,66 kV/420 V, Dyn7, Type C, 3Ø miniature substation fitted with MV switchgear and an LV switch compartment, as specified	200005390	1
C6	200 kVA, 11,5 kV/420 V, Dyn11, Type B, 3Ø miniature substation fitted with MV switchgear and an LV switch compartment, as specified	200008539	40
C7	315 kVA, 11,5 kV/420 V, Dyn11, Type B, 3Ø miniature substation fitted with MV switchgear and an LV switch compartment, as specified	200008538	25
C8	500 kVA, 11,5 kV/420 V, Dyn11, Type B, 3Ø miniature substation fitted with MV switchgear and an LV switch compartment, as specified	200008536	7
C9	800 kVA, 11,5 kV/420 V, Dyn11, Type B, 3Ø miniature substation fitted with MV switchgear and an LV switch compartment, as specified	200008534	7
C10	1 000 kVA, 11,5 kV/420 V, Dyn11, Type B, 3Ø miniature substation fitted with MV switchgear and an LV switch compartment, as specified	200008533	5

C11	315 kVA, 3,3 kV/420 V, Dyn11, Type B, 3Ø miniature substation fitted with MV switchgear and an MV and LV cable box, as specified.	TBA	2
C12	500 kVA, 420 V/11,5 kV, Dyn11, Type B, 3Ø miniature substation fitted with MV switchgear and an MV and LV cable box, as specified.	TBA	2
Item Category D: High Security Miniature Substations:			
D1	315 kVA, 11,66 kV/420 V, Dyn7, Type C, 3Ø high security miniature substation fitted with MV switchgear and an LV switch compartment, as specified	200019556	2
D2	500 kVA, 11,66 kV/420 V, Dyn7, Type C, 3Ø high security miniature substation fitted with MV switchgear and an LV switch compartment, as specified	200019557	5
D3	800 kVA, 11,66 kV/420 V, Dyn7, Type C, 3Ø high security miniature substation fitted with MV switchgear and an LV switch compartment, as specified	200019558	10
D4	1000 kVA, 11,66 kV/420 V, Dyn7, Type C, 3Ø high security miniature substation fitted with MV switchgear and an LV switch compartment, as specified	200019558	2
D5	315 kVA, 11,5 kV/420 V, Dyn11, Type B, 3Ø high security miniature substation fitted with MV switchgear and an LV switch compartment, as specified	200019559	5
D6	500 kVA, 11,5 kV/420 V, Dyn11, Type B, 3Ø high security miniature substation fitted with MV switchgear and an LV switch compartment, as specified	200019560	10
D7	800 kVA, 11,5 kV/420 V, Dyn11, Type B, 3Ø high security miniature substation fitted with MV switchgear and an LV switch compartment, as specified	200019561	8
D8	1 000 kVA, 11,5 kV/420 V, Dyn11, Type B, 3Ø high security miniature substation fitted with MV switchgear and an LV switch compartment, as specified	200019562	5
	Item Category E: Water and Sanitation Transformers		
E1	200 kVA, 3,3 kV/420 kV, Dyn7, 3Ø hermetically sealed distribution transformer fitted with MV and LV cable boxes, as specified	TBA	1
E2	200 kVA, 3,3 kV/420 kV, Dyn11, 3Ø hermetically sealed distribution transformer fitted with MV and LV cable boxes, as specified	TBA	1
E3	315 kVA, 3,3 kV/420 kV, Dyn7, 3Ø hermetically sealed distribution transformer fitted with MV and LV cable boxes, as specified	TBA	1
E4	315 kVA, 3,3 kV/420 kV, Dyn11, 3Ø hermetically sealed distribution transformer fitted with MV and LV cable boxes, as specified	TBA	1

E5	500 kVA, 420 kV/3,3 kV, Dyn7, 3Ø hermetically sealed distribution transformer fitted with an MV and LV cable box, as specified	TBA	1
E6	500 kVA, 420 kV/3,3 kV, Dyn11, 3Ø hermetically sealed distribution transformer fitted with an MV and LV cable box, as specified	TBA	1
E7	500 kVA, 3,3 kV/420 V, Dyn7, 3Ø hermetically sealed distribution transformer fitted with an MV and LV cable box, as specified	TBA	1
E8	500 kVA, 3,3 kV/420 V, Dyn11, 3Ø hermetically sealed distribution transformer fitted with an MV and LV cable box, as specified	TBA	1
E9	500 kVA, 11,5 kV/3,3 kV, Dyn11, 3Ø hermetically sealed distribution transformer fitted with an MV and LV cable box, as specified	TBA	1
E10	500 kVA, 11,66 kV/3,3 kV, Dyn7, 3Ø hermetically sealed distribution transformer fitted with an MV and LV cable box, as specified	TBA	1
E11	800 kVA, 420 V/3,3 kV, YNd11, 3Ø hermetically sealed distribution transformer fitted with an MV and LV cable box, as specified	TBA	1
E12	800 kVA, 11,66 kV/3,3 kV, Dyn7, 3Ø hermetically sealed distribution transformer fitted with an MV and LV cable box, as specified	TBA	1
E13	1000 kVA, 11,5 kV/3,3 kV, Dyn11, 3Ø hermetically sealed distribution transformer fitted with MV and LV cable boxes, as specified	TBA	1
E14	1000 kVA, 11,66 kV/3,3 kV, Dyn7, 3Ø hermetically sealed distribution transformer fitted with MV and LV cable boxes, as specified	TBA	1
E15	1500 kVA, 3,3 kV/420 V, Dyn11, 3Ø hermetically sealed distribution transformer fitted with an MV and LV cable box, as specified	TBA	1
E16	1600 kVA, 420 V / 11,5 kV, Dyn11, 3Ø hermetically sealed distribution transformer fitted with an MV and LV cable box, as specified	TBA	1
E17	2000 kVA, 420 V/11,5 kV, YNd11, 3Ø hermetically sealed distribution transformer fitted with an MV and LV cable box, as specified.	TBA	1
E18	2000 kVA, 420 V/11,66 kV, YNd11, 3Ø hermetically sealed distribution transformer fitted with an MV and LV cable box, as specified	TBA	1
E19	2000 kVA, 11,5 kV/420 V, Dyn11, 3Ø hermetically sealed distribution transformer fitted with an MV and LV cable box, as specified	TBA	1

E20	2000 kVA, 11,5 kV/3,3 kV, Dyn11, 3Ø hermetically sealed distribution transformer fitted with MV and LV cable boxes, as specified	TBA	1
E21	2000 kVA, 11,66 kV/420 V, Dyn7, 3Ø hermetically sealed distribution transformer fitted with an MV and LV cable box, as specified	TBA	1
E22	2000 kVA, 11,66 kV/3,3 kV, Dyn7, 3Ø hermetically sealed distribution transformer fitted with MV and LV cable boxes, as specified	TBA	1
E23	2500 kVA, 420 V/3,3 kV, Dyn11, 3Ø hermetically sealed distribution transformer fitted with an MV and LV cable box, as specified	TBA	1
E24	2500 kVA, 420 kV/11,66 kV, YNd11, 3Ø hermetically sealed distribution transformer fitted with an MV and LV cable box, as specified	TBA	1
E25	2500 kVA, 11,66 kV/690 V, Dyn7, 3Ø hermetically sealed distribution DPFC transformer fitted with an MV and LV cable box, as specified	TBA	1
	Item Category E: Additional Items:		
F1	**Ring Main Unit (RMU) Installation, Operation, and Maintenance Training (Clause 8.10)**: A full five-working-day training intervention for 100 participants, as specified in Clause 8.10 of the Detailed Specification. The training will cover RMU installation procedures, operational best practices, routine and corrective maintenance, and safety requirements.	N/A	50
F2	**Transformer Design and Harmonic Impact Training:** This module will address general transformer design principles, with a specific focus on the effects of harmonics in distributed networks. It will equip participants with the knowledge needed to understand transformer behavior under harmonic conditions and implement appropriate mitigation strategies.	N/A	50
F3	Additional 63 mm predrilled cover plate for standard Dyn7 Distribution Transformer gland plate, as specified	200019438	50
F4	Additional 40 mm predrilled cover plate for standard Dyn7 Distribution Transformer gland plate, as specified	200019439	10
F5	Split gland plate assembly with blanking plates, complete as specified, for delivery to stock	200019440	5
F6	Additional 80 mm (No 7 gland) predrilled cover plate for Distribution Transformer split gland plate, as specified	200019551	5
F7	Additional 65 mm (No 6 gland) predrilled cover plate for Distribution Transformer split gland plate, as specified	200019552	5
F8	Additional 55 mm (No 5 gland) predrilled cover plate for Distribution Transformer split gland plate, as specified	200019553	5

F9	Additional 45 mm (No 4 gland) predrilled cover plate for Distribution Transformer split gland plate, as specified.	200019554	5
F10	LV Jumpers - Alternative Conductor (CCAA or Al Alloy etc.) per meter – (Supplied on drum)	TBA	3000m
F11	Suitable LV jumper lugs (each)	TBA	1000

16. HEALTH AND SAFETY PLAN

16.1. The successful Tenderer(s) will be responsible for the safe loading, transport, delivery and off-loading of the goods strictly in accordance with the requirements of the Occupational Health and Safety Act and all other relevant legislation. To this end the successful Tenderer(s) shall provide a detailed Health and Safety Plan to the City within two weeks of commencement of contract detailing the specific provisions put in place to ensure compliance in this regard.

17. TRADE NAMES OR PROPRIETARY PRODUCTS

17.1. Bid specifications may not make any reference to any particular trademark, name, patent, design, type, specific origin or producer, unless there is no other sufficiently precise or intelligible way of describing the characteristics of the work, in which case such reference must be accompanied by the words “or equivalent”.

17.2. All descriptions or clauses where trade names or proprietary products are specified herein, are deemed to include the phrase “or equivalent.”

18. EMPLOYMENT OF SECURITY PERSONNEL

18.1. All security staff employed by the supplier on behalf of the CCT or at any CCT property must be registered with Private Security Industry Regulatory Authority (PSiRA). Proof of such registration must be made available to the CCT’s agent upon request.

19. FORMS FOR CONTRACT ADMINISTRATION

The supplier shall complete, sign and submit with each invoice, the following:
a) Monthly Project Labour Report **(Annex 3)**.
b) B-BBEE Sub-Contract Expenditure Report **(Annex 4)**.
c) Joint Venture Expenditure Report **(Annex 5)**.

The Monthly Project Labour Report must include details of <u>all</u> labour (including that of sub-contractors) that are South African citizens earning less than R350.00 per day, as adjusted from time to time (excluding any benefits), who are employed on a temporary or contract basis on this contract in the month in question.

In addition to the Monthly Project Labour Report the Supplier shall simultaneously furnish the CCT’s Agent with copies of the employment contracts entered into with such labour, together with certified copies of identification documents as well as evidence of payments to such labour in the form of copies of payslips or payroll runs. If the worker is paid in cash or by cheque, this information must be recorded on the envelope and the worker must acknowledge receipt of payment by signing for it and proof of such acknowledgement shall be furnished to the CCT’s Agent.

The Monthly Project Labour Reports shall be completed and submitted in accordance with the instructions therein.

The **B-BBEE Sub-Contract Expenditure Report** is required for monitoring the supplier’s compliance with the sub-contracting conditions of the **Preference Schedule**.

The Joint Venture Expenditure Report is required for monitoring the joint venture’s/consortium/partnership compliance with the percentage contributions of the partners as tendered, where the joint venture/consortium/partnership has been awarded preference points in respect of its consolidated B-BBEE scorecard.

[ ] TRADE NAMES OR PROPRIETARY PRODUCTS

Tenderers/Suppliers must note that wherever this document refers to any particular trademark, name, patent, design, type, specific origin or producer, such reference shall be deemed to be accompanied by the words “or equivalent”.

[ ] EMPLOYMENT OF SECURITY PERSONNEL

All security staff employed by the Supplier on behalf of the CCT or at any CCT property must be registered with Private Security Industry Regulatory Authority (PSiRA). Proof of such registration must be made available to the CCT or its agent, upon request.

[ ] FORMS FOR CONTRACT ADMINISTRATION

The Supplier shall complete, sign and submit with each invoice, the following:

d) Monthly Project Labour Report (described below)

The Monthly Project Labour Report must include details of all labour (including that of sub-contractors) that are South African citizens earning less than **[R]** per day, as adjusted from time to time (excluding any benefits), who are employed on a temporary or contract basis on this contract in the month in question.

In addition to the Monthly Project Labour Report the Supplier shall simultaneously furnish the CCT’s Agent with copies of the employment contracts entered into with such labour, together with certified copies of identification documents, proof of attendance in the form of attendance registers or timesheets as well as evidence of payments to such labour in the form of copies of payslips or payroll runs. If the worker is paid in cash or by cheque, this information must be recorded on the envelope and the worker must acknowledge receipt of payment by signing for it and proof of such acknowledgement shall be furnished to the CCT’s Agent.

C.6 SPECIAL CONDITIONS OF CONTRACT

The following Special Conditions of Contract, referring to the National Treasury – Conditions of Contract (revised July 2010), are applicable to this agreement.

1. Definitions

Insert new clause 1.1A with the following:

1.1A "Commencement Date" means the date the Supplier confirms receipt from the Purchaser of 1 (one) complete, signed copy of the Contract, the *Schedule of Deviations* (if any).

1.1B "Conditions of Contract" means the general conditions of contract and special conditions of contract including all other contract data incorporated by reference.

Delete Clause 1.15 and substitute with the following

1.15 The word 'Goods' is to be replaced everywhere it occurs in the GCC with the phrase 'Goods and / or Services' which means all the equipment, machinery, materials, services, products, consumables, etc. that the Supplier is required to deliver to the Purchaser under the agreement. This definition shall also be applicable, as the context requires, anywhere where the words "supplies" and "services" occurs in the GCC.

Delete Clause 1.19 and substitute with the following

1.19 The word 'Order' is to be replaced everywhere it occurs in the GCC with the words 'Purchase Order' which means the official purchase order authorised and released on the Purchaser's SAP System.

Delete Clause 1.21 and substitute with the following:

1.21 'Purchaser' means the City of Cape Town. The address of the Purchaser is 12 Hertzog Boulevard, Cape Town, 8001 (chosen domicilium citandi et executandi).

Add the following after Clause 1.25:

1.26 'Supplier' means the provider of Goods and / or Services with whom the Contract is concluded also referred to as "contractor" in the GCC.

1.27"Intellectual Property" means any and all intellectual property rights of any nature anywhere in the world whether registered, registerable or otherwise, including patents, trademarks, registered designs and domain names, applications for any of the foregoing, trade or business names, copyright and rights in the nature of copyright, design rights, rights in databases, know-how, trade secrets and any other intellectual property rights which subsist in computer software, computer programs, websites, documents, information, techniques, business methods, drawings, logos, instruction manuals, lists and procedures and particulars of customers, marketing methods and procedures and advertising literature, including the "look and feel" of any websites

1.28 "Working Day" means Monday to Friday excluding weekends and Public Holidays (in the Republic of South Africa).

3. General Obligations

Delete Clause 3.2 in its entirety and replace with the following clauses.

3.2 The Parties will be liable to each other arising out of or in connection with any breach of the obligations detailed or implied in this contract, subject to clause 28.

3.3 If the Supplier is a joint venture, all parties in a joint venture or consortium shall be jointly and severally liable to the Purchaser in terms of the Contract and shall carry individually the minimum levels of insurance stated in the Contract, if any.

3.4 The Parties shall comply with all laws, regulations and bylaws of local or other authorities having jurisdiction regarding the Delivery of the Goods and/or Services and give all notices and pay all charges required by such authorities.

3.4.1 The Parties agree that this Contract shall also be subject to the CCT's Supply Chain Management Policy ("SCM Policy") that was applicable on the date the bid was advertised as amended from time to time. If the Purchaser adopts a new SCM Policy which contemplates that any clause therein would apply to the Contract emanating from this tender, such clause shall also be applicable to the Contract. Please refer to this document contained on the CCT's website.

3.4.2 Abuse of the supply chain management system is not permitted and may result in termination of the Contract, restriction of the Supplier, and/or the exercise by the CCT of any other remedies available to it as described in the SCM Policy or in law.

3.5 The Supplier shall:

3.5.1 Arrange for the documents listed below to be provided to the Purchaser prior to the issuing of the Purchase Order by the Purchaser and no later than the periods as set out in the Contract:

a) Proof of Insurance (Refer to Clause 11) or Insurance Broker's Warrantee,
b) Letter of good standing from the Compensation Commissioner, or a licensed compensation insurer (Refer to Clause 11),
c) Initial delivery programme, and
d) Other requirements as detailed in the Contract.

3.5.2 Only when notified of the acceptance of the bid on the Date of Commencement of Contract, the Supplier shall commence with and carry out the Delivery of the Goods and/or Services in accordance with the Contract, to the satisfaction, of the Purchaser.

3.5.3 Provide all of the necessary materials, labour, plant and equipment required for the delivery of the Goods and/or Services including any temporary services that may be required.

3.5.4 Insure his workmen and employees against death or injury arising out of the delivery of the Goods.

3.5.5 Be continuously represented during the Delivery of the Goods and/or Services by a competent representative duly authorised to execute instructions.

3.5.6 In the event of a loss resulting in a claim against the insurance policies stated in clause 11, pay the first amount (excess) as required by the insurance policy.

3.5.7 Comply with all written instructions from the Purchaser subject to clause 18.

3.5.8 Complete and Deliver the goods within the period stated in clause 10, or any extensions thereof in terms of clause 21.

3.5.9 Make good at his own expense, all incomplete and defective Goods during the warranty period.

3.5.10 Pay to the Purchaser any penalty for delay as due on demand by the Purchaser. The Supplier hereby consents to such amounts being deducted from any payment due to the Supplier.

3.5.11 Comply with the provisions of the OHAS Act & all relevant regulations.

3.5.12 Comply with all laws relating to wages and conditions generally governing the employment of labour in the Cape Town area and any applicable Bargaining Council agreements.

3.5.13 Deliver the Goods in accordance with the Contract and with all reasonable care, diligence and skill in accordance with generally accepted professional techniques and standards.

3.6 The Purchaser shall:

3.6.1 Issue Purchaser Orders for the Goods and/or Services required under this Contract. No liability for payment will ensue for arising out of the Delivery of the Goods and/or Services, unless a Purchase Order

has been issued to the Supplier.

3.6.2 Make payment to the Supplier for the Goods and/or Services as set out herein.

3.6.3 Take possession of the Goods and /or Services upon Delivery by the Supplier.

3.6.4 Regularly inspect the Goods to establish that it is being delivered in compliance with the Contract.

3.6.5 Give any instructions and/or explanations and/or variations to the Supplier including any relevant advice to assist the Supplier to understand the Contract.

3.6.6 Grant or refuse any extension of time requested by the Supplier of the period stated in clause 10.

3.6.7 Inspect the Goods and/or Services to determine if, in the opinion of the Purchaser, it has been delivered in compliance with the Contract, alternatively in such a state that it can be properly used for the purpose for which it was intended.

3.6.8 Brief the Supplier and issue all documents, information, etc. in accordance with the contract.

5. Use of contract documents and information; inspection, copyright, confidentiality, etc.

Add the following after clause 5.4:

5.5 Copyright of all documents prepared by the Supplier in accordance with the relevant provisions of the Copyright Act (Act 98 of 1978) relating to the Contract shall be vested in the Purchaser. Where copyright is vested in the Supplier, the Purchaser shall be entitled to use the documents or copy them only for the purposes for which they are intended in regard to the agreement and need not obtain the Supplier's permission to copy it for such use. Where copyright is vested in the Purchaser, the Supplier shall not be liable in any way for the use of any of the information other than as originally intended in terms of the agreement and the Purchaser hereby indemnifies the Supplier against any claim which may be made against it by any person / entity, arising from the use of such documentation for other purposes.

The ownership of data and factual information collected by the Supplier and paid for by the Purchaser shall, after payment, vest with the Purchaser.

5.6 Publicity and publication
The Supplier shall not release public or media statements or publish material related to the services or agreement within two (2) years of Delivery of the Goods, without the written approval of the Purchaser, which approval shall not be unreasonably withheld.

5.7 Confidentiality
Both Parties shall keep all information obtained by them in the context of the agreement, confidential and shall not divulge it without the written approval of the other Party.

5.8 Intellectual Property

5.8.1 The Supplier acknowledges that it shall not acquire any right, title or interest in or to the Intellectual Property of the Purchaser.

5.8.2 The Supplier hereby assigns to the Purchaser, all Intellectual Property created, developed or otherwise brought into existence by it for the purposes of the agreement, unless the Parties expressly agree otherwise in writing.

5.8.3 The Supplier shall, and warrants that it shall:

5.8.3.1 Not be entitled to use the Purchaser's Intellectual Property for any purpose other than as contemplated in the agreement.

5.8.3.2 not modify, add to, change or alter the Purchaser's Intellectual Property, or any information or data related thereto, nor may the Supplier produce any product as a result of, including and/or arising from any such information, data and Intellectual Property, and in the event that it does produce any such product, the product shall be, and be deemed in law to be, owned by the Purchaser;

5.8.3.3 Not apply for or obtain registration of any domain name, trademark or design which is similar to any Intellectual Property of the Purchaser;

5.8.3.4 Comply with all reasonable directions or instructions given to it by the Purchaser in relation to the form and manner of use of the CCT Intellectual Property, including without limitation, any brand guidelines which the Purchaser may provide to the Supplier from time to time;

5.8.3.5 Ensure that its employees, directors, members and contractors comply strictly with the provisions of this Clause 5.5.8.4 above unless the Purchaser expressly agrees to the contrary, in writing and only after obtaining due internal authority for such agreement.

5.8.4 The Supplier represents and warrants to the Purchaser that, in providing Goods and/or Services for the duration of the agreement it will not infringe or make unauthorised use of the Intellectual Property rights of any third party and hereby indemnifies the Purchaser from any claims, liability, loss, damages, costs, and expenses arising from the infringement or unauthorised use by the Supplier of any third party's Intellectual Property rights.

5.8.5 Upon expiry of the contract period and in the event that the Contract is terminated, ended or is declared void, any and all of the Purchaser's Intellectual Property, and any and all information and data related thereto, shall be immediately handed over to the Purchaser by the Supplier and no copies thereof shall be retained by the Supplier unless the Purchaser expressly and in writing, after obtaining due internal authority, agrees otherwise.

Add the following after clause 5.8:

5.9 **Protection of Personal Information Act of 2013**

By submitting a tender to the Purchaser, (and by concluding any ensuing related agreement with the City of Cape Town, if applicable), the Tenderer thereby acknowledges and unconditionally agrees:

5.9.1 that the tenderer has been informed of the purpose of the collection and processing of its personal information as defined in the Protection of Personal Information Act of 2013 ("POPIA"), which, for the avoidance of doubt is for, and in relation to, the tender process and the negotiation, conclusion, performance and enforcement of the ensuing agreement, if applicable, as well as for the City of Cape Town's reporting purposes;

5.9.2 To the collection and processing of the tenderer's personal information by the City of Cape Town and agrees to make available to the City of Cape Town, all information reasonably required by the City of Cape Town for the above purposes;

5.9.3 that the personal information the City of Cape Town collects from the tenderer or about the tenderer may be further processed for other activities and/or purposes which are lawful, reasonable, relevant and not excessive in relation to the purposes set out above, for which it was originally collected;

5.9.4 that, the tenderer indemnifies the City of Cape Town and its officials, employees, and directors and undertakes to keep the City of Cape Town and its officials, employees, and directors indemnified in respect of any claim, loss, demands, liability, costs and expenses of whatsoever nature which may be made against the City of Cape Town (including the costs incurred in defending or contesting any such claim) in relation to the tenderer or the tenderer's employees', representatives' and/or sub-Suppliers' non-compliance with POPIA and/or the City of Cape Town's failure to obtain the tenderer's consent or to notify the tenderer of the reason for the processing of the tenderer's personal information;

5.9.5 to the disclosure of the tenderer's personal information by the City of Cape Town to any third party, where the City of Cape Town has a legal or contractual obligation to disclose such personal information to the third party (or a legitimate interest exits therein);

5.9.6 that, under POPIA, the tenderer may request to access, confirm, request the correction, destruction, or deletion of, or request a description of, personal information held by the City of Cape Town in relation to you, subject to applicable law; and that under POPIA, subject to applicable law, the tenderer also has the right to be notified of a personal information breach and the right to object to, or restrict, the City of Cape Town's processing of its personal information.

5.10 **PERFORMANCE MONITORING**

5.10.1 As required by section 116(2)(b) of the Local Government: Municipal Financial Management Act 56 of 2003, the CCT shall monitor the performance of the Supplier on at least a monthly basis, and the Supplier agrees to provide the CCT with its full cooperation in this regard.

7. Performance Security

Delete clause 7.1 and replace with the following:

7.1 Within 14 (fourteen) days of Commencement Date the Supplier shall furnish to the Purchaser the performance security:

7.1.1 For the Guarantee Sum equal to **[DRAFTER TO INSERT RAND AMOUNTS REQUIRED AS DETERMINED IN ACCORDANCE WITH THE REQUIREMENTS OF THE SCM POLICY]** being **[ ]** percent of the Contract price or such other applicable amount.

7.1.2 The Performance Security/Guarantee furnished shall be issued by an Approved Financial Institution listed in the Pro Forma Performance Security/Guarantee as at [insert date] (being institutions approved for issue of contract guarantees by the Purchaser).

Delete clause 7.3 and replace with the following:

7.3 The performance security shall be furnished strictly in accordance with the terms and conditions set out in Form of Performance Security/ Guarantee.

Delete clause 7.4 and replace with the following:

7.4 The performance security will be discharged by the Purchaser and returned to the Supplier strictly in accordance with the terms and conditions set out in the Performance Security/ Guarantee.

OR

Delete clause 7.1 to 7.4 and replace with the following:

Not Applicable. Tenderers must disregard the **Pro Forma Performance Security/ Guarantee** and are not required to furnish same.

8. Inspections, tests and analyses

Delete Clause 8.2 and substitute with the following:

8.2 If it is a bid condition that Goods and/or Services to be produced or services to be rendered should at any stage during production or execution or on completion be subject to inspection, the premises of the bidder or Supplier shall be open, at all reasonable hours, for inspection by a representative of the Purchaser or an organisation acting on behalf of the Purchaser.

10. Delivery and documents

Delete clauses 10.1 and 10.2 and replace with the following:

10.1 Delivery of the goods shall be made by the Supplier in accordance with the terms specified in the contract. The time for Delivery of the goods shall be the date as stated on the Purchase Order. In the case of agreements for Delivery of goods in terms of framework or panel agreements, Purchase Orders for the supply and delivery of goods may be raised up until the expiry of a framework or panel agreement, provided that the goods can be delivered within 30 (thirty) days of expiry of the framework or panel agreement. In this context, the “goods” does not include services and carries its ordinary meaning. All Purchase Orders other than for the supply and Delivery of goods (i.e. supply of services, professional services or constructions works), must be completed prior to the expiry of the contract period.

10.2 The Purchaser shall determine, in its sole discretion, whether the Goods and/or Services have been delivered in compliance with the Contract, alternatively in such a state that it can be properly used for the

purpose for which it was intended. When the Purchaser determines that the Goods and/or Services have been satisfactorily delivered, the Purchaser must issue an appropriate certification, or written approval, to that effect. Invoicing may only occur, and must be dated, on or after the date of such written acceptance of the Goods.

11. Insurance

Add the following after clause 11.1:

11.2 Without limiting the obligations of the Supplier in terms of this Contract, the Supplier shall effect and maintain the following additional insurances:

11.2.1 Public liability insurances, in the name of the Supplier, covering the Supplier and the Purchaser against liability for the death of or injury to any person, or loss of or damage to any property, arising out of or in the course of this Contract, in an amount not less than **[R20 million]** for any single claim;

11.2.2 Motor Vehicle Liability Insurance, in respect of all vehicles owned and / or leased by the Supplier, comprising (as a minimum) “Balance of Third Party” Risks including Passenger Liability Indemnity;

11.2.3 Registration / insurance in terms of the Compensation for Occupational Injuries and Disease Act, Act 130 of 1993. This can either take the form of a certified copy of a valid Letter of Good Standing issued by the Compensation Commissioner, or proof of insurance with a licenced compensation insurer, from either the Supplier’s broker or the insurance company itself (see the Pro Forma Insurance Broker’s Warranty).

[11.2.4 In the case of Contracts for delivery of professional services, Professional indemnity insurance providing cover in an amount of not less than [**R5 million]** in respect of each and every claim during the contract period.]

11.2.5 In the event of under insurance or the insurer’s repudiation of any claim for whatever reason, the Purchaser will retain its right of recourse against the Supplier.

11.3 The Supplier shall be obliged to furnish the Purchaser with proof of such insurance as the Purchaser may require from time to time for the duration of this Contract. Evidence that the insurances have been effected in terms of this clause, shall be either in the form of an insurance broker’s warranty worded precisely as per the pro forma version contained in the Pro forma Insurance Broker’s Warranty or copies of the insurance policies.

15. Warranty

Add to Clause 15.2:

15.2 The warranty for this Contract shall remain valid for six (6) months from date of Delivery of the Goods and/or Services.

16. Payment

Delete Clause 16.1 in its entirety and replace with the following:

16.1 Payment of invoices will be made:

16.1.1 Within 30 (thirty) days of receiving the relevant invoice or statement from the Supplier, unless otherwise prescribed for certain categories of expenditure or specific contractual requirements in accordance with any other applicable policies of the Purchaser.

16.1.2 Notwithstanding anything contained above, the Purchaser shall not be liable for payment of any invoice that pre-dates the date of delivery of any Goods and/or Services.

Delete Clause 16.2 in its entirety and replace with the following:

16.2 The Supplier shall furnish the purchaser’s Accounts Payable Department with an original tax invoice, clearly showing the amount due in respect of each and every claim for payment.

Add the following after clause 16.4

16.5 Notwithstanding any amount stated on the Purchase Order, the Supplier shall only be entitled to payment for Goods and/or Services actually delivered in terms of the Specification and Drawings, or any variations thereof made in accordance with clause 18. Any contingency sum included shall be for the sole use, and at the discretion, of the Purchaser.

16.6 The Purchaser will only make advanced payments to the Supplier in strict compliance with the terms and conditions as contained in the Pro forma Advanced Payment Guarantee and only once the authenticity of such guarantee has been verified by the Purchaser's Treasury Department.

16.6.1 The Advance Payment Schedule applicable to this Contract is set out below. The items of plant and materials which have been identified by the Purchaser as being suitable for advance payment in terms of this Contract are listed in the table below, and for which the Purchaser is prepared to make advance payment to the Supplier, subject to the conditions below. Should an item or items be added to the list at tender stage by a tenderer, no obligation to advance payment shall be incurred by the Purchaser, for such items added by the tenderer except as provided for herein.

Plant and materials which have been manufactured and are stored by the supplier	Plant and materials yet to be manufactured and for which a deposit with order is required from the supplier by a third party manufacturer/supplier, and which may be stored by the supplier:

16.6.2 The Supplier can only rely on advance payment being permitted by the Purchaser in respect of the plant and materials listed in the table above. The Purchaser may, however, permit advance payment for other plant and materials in exceptional circumstances and at its sole discretion, during the course of the Contract, and upon reasonable request from the Supplier.

16.6.3 Advance payment for the purposes of deposits will only be provided up to a limit of **[DRAFTER TO SELECT PERCENTAGE: %]** of the value of any one item being claimed.

16.6.4 The Supplier shall provide the Purchaser with documentary evidence of the terms and conditions for which a deposit with order is required by a third-party manufacturer/supplier, together with the advance payment guarantee.

16.6.5 The Supplier will also be permitted to obtain advance payment for the balance of the value of the plant and materials in respect of which he has paid a deposit, for an item which after manufacture is stored by the Supplier. The Supplier shall, in respect of such payment, provide an advance payment guarantee, either for such balance or, if the advance payment guarantee in respect of the deposit is to be returned by the Purchaser upon request, for the whole value of the item.

17. Prices

Add the following after clause 17.1

17.2 If as a result of an award of a contract beyond the original tender validity period, the contract execution will be completed beyond a period of twelve (12) months from the expiry of the original tender validity period, then the contract may be subject to contract price adjustment for that period beyond such twelve (12) months. An appropriate contract price adjustment formula will be determined by the Purchaser delegated authority if such was not included in the bid documents.

17.3 If as a result of any extension of time granted, the contract execution will be completed beyond a period of twelve (12) months from the expiry of the original tender validity period, then contract price adjustment may apply to that period beyond such twelve (12) months. An appropriate contract price adjustment formula will be determined by the Director: Supply Chain Management if such was not included in the bid documents.

17.4Prices are firm and not subject to adjustment

OR

17.4 The prices for the goods and/or Services delivered and services performed shall be subject to contract price adjustment in terms of Schedule F.1 Contract Price Adjustment and/or Rate of Exchange Variations and the following conditions will be applicable:

18. Contract Amendments

Delete the heading of clause 18 and replace with the following:

18. Contract Amendments and Variations

Add the following to clause 18.1:

Variations means changes to the Goods and/or Services, extension of the contract period or increases in the value of the Contract as a result of written instructions issued by the Purchaser to the Supplier. Such changes are subject to prior approval by the Purchaser's delegated authority. Should the Supplier deliver any Goods not described in a written instruction from the Purchaser, the Purchaser's liability for payment shall no arise until such time as the change has been duly approved and such approval communicated to the Purchaser.

20. Subcontracts

Add the following after clause 20.1:

20.2 The Supplier shall be liable for the acts, defaults and negligence of any subcontractor, his agents or employees as fully as if they were the acts, defaults or negligence of the Supplier.

20.3 Any appointment of a subcontractor shall not amount to a contract between the Purchaser and the subcontractor, or a responsibility or liability on the part of the Purchaser to the subcontractor and shall not relive the Supplier from any liability or obligation under the Contract.

21. Delays in the supplier's performance

Delete Clause 21.2 in its entirety and replace with the following:

21.2 If at any time during the performance of obligations contained in the Contract the Supplier or its subcontractors should encounter conditions beyond their reasonable control which impede the timely delivery of the Goods and/or Services, the Supplier shall notify the Purchaser in writing, within 7 (seven) days of first having become aware of these conditions, of the facts of the delay, its cause(s) and its probable duration. As soon as practicable after receipt of the Supplier's notice, the Purchaser shall evaluate the situation, and may at his discretion extend the time for Delivery.

Where additional time is granted, the Purchaser shall also determine whether or not the Supplier is entitled to payment for additional costs in respect thereof. The principle to be applied in this regard is that where the Purchaser or any of its agents are responsible for the delay, reasonable costs shall be paid. In respect of delays that were beyond the reasonable control of both the Supplier and the Purchaser, additional time only (no costs) will be granted.

The Purchaser shall notify the Supplier in writing of his decision(s) in the above regard.

21.3 No provision in this Contract shall be deemed to prohibit the obtaining of Goods and/or Services from a national department, provincial department, or a local authority.

22. Penalties

Delete clause 22.1 and replace with the following:

22.1 Subject to GCC Clause 25, if the Supplier fails to deliver any or all of the Goods and/or Services within the period(s) specified in the Contract, the Purchaser shall, without prejudice to its other remedies under the Contract, deduct from amounts payable, as a penalty, a sum as stated herein for each day of the delay until actual Delivery or performance.

The penalty for this contract shall be **[ ]**

22.2 The Purchaser shall, without prejudice to its other remedies under the contract, deduct from amounts payable, financial penalties as contained on the Preference Schedule for breaches of the conditions upon which preference points were awarded.

23. Termination for default

Delete the heading of clause 23 and replace with the following:

23. Termination

Add the following to the end of clause 23.1:

If the Supplier fails to remedy the breach in terms of such notice.

Add the following after clause 23.7:

23.8 In addition to the grounds for termination due to default by the Supplier, the Contract may also be terminated:

23.8.1 Upon the death of the Supplier who was a Sole Proprietor, or a sole member of a Close Corporation, in which case the contract will terminate forthwith.

23.8.2 If the Parties, by mutual agreement, terminate the Contract.

23.8.3 If a material irregularity vitiates the procurement process leading to the conclusion of the Contract, rendering the procurement process and the conclusion of the resulting Contract unfair, inequitable, non-transparent, uncompetitive or not cost-effective the Contract may be terminated by the Purchaser (upon conclusion of applicable processes by the City Manager as described in the Purchaser's SCM Policy).

23.8.4 Reputational risk or harm to the Purchaser

The Purchaser, without prejudice to any other remedy for breach of contract, by written notice of default sent to the Supplier, may terminate the contract if the implementation of the contract may result in reputational risk or harm to the Purchaser as a result of (inter alia):

a) reports of poor governance and/or unethical behaviour;
b) association with known notorious individuals and family of notorious individuals;
c) poor performance issues, known to the Purchaser
d) negative social media reports;
e) adverse assurance (e.g. due diligence) report outcomes; or
f) Circumstances where the relevant vendor has employed, or is directed by, anyone who was previously employed in the service of the state (as defined in clause 1.53), where the person is or was negatively implicated in any SCM irregularity.

By or in relation to the Supplier, the Contract may be terminated by the Purchaser after providing notice to the Supplier.

23.9 If the Contract is terminated in terms of clause 23.8, all obligations that were due and enforceable prior to the date of the termination, must be performed by the relevant Party.

26. Termination for insolvency

Delete clause 26.1 and replace with the following:

26.1 In the event of the Supplier becoming bankrupt or otherwise insolvent the Purchaser may elect to:

26.1.1 At any time, terminate the Contract by giving written notice to the Supplier; or
26.1.2 Accept a Supplier's proposal (via the liquidator) to render delivery utilising the appropriate contractual mechanisms or takes steps to ensure its rights are protected and any negative impact on service delivery

is mitigated.

26.2 In the event of the Purchaser electing to cancel the Contract in accordance with clause 26.1.1 above, the Purchaser shall make payment of all verified and signed off invoices. In the event of there being any dispute in respect of any outstanding invoices such dispute shall be dealt with in accordance with the dispute resolution mechanism in the Contract.

27. Settlement of Disputes

Amend clause 27.1 as follows:

27.1 If any dispute or difference of any kind whatsoever, with the exception of termination in terms of clause 23 arises between the Purchaser and the Supplier in connection with or arising out of the Contract, the Parties shall make every effort to resolve such dispute or difference amicably, by mutual consultation.

Delete Clause 27.2 in its entirety and replace with the following:

27.2 Should the Parties fail to resolve any dispute by way of mutual consultation, either party shall be entitled to refer the matter for mediation before an independent and impartial person appointed by the City Manager in accordance with Regulation 50(1) of the Local Government: Municipal Finance Management Act, 56 of 2003 – Municipal Supply Chain Management Regulations (Notice 868 of 2005). Such referral shall be done by either party giving written notice to the other of its intention to commence with mediation. No mediation may be commenced unless such notice is given to the other party.

Irrespective whether the mediation resolves the dispute, the Parties shall bear their own costs concerning the mediation and share the costs of the mediator and related costs equally.

The mediator shall agree the procedures, representation and dates for the mediation process with the Parties. The mediator may meet the Parties together or individually to enable a settlement.

Where the Parties reach settlement of the dispute or any part thereof, the mediator shall record such agreement and on signing thereof by the Parties the agreement shall be final and binding.

Save for reference to any portion of any settlement or decision which has been agreed to be final and binding on the Parties, no reference shall be made by or on behalf of either party in any subsequent court proceedings, to any outcome of an amicable settlement by mutual consultation, or the fact that any particular evidence was given, or to any submission, statement or admission made in the course of amicable settlement by mutual consultation or mediation.

28. Limitation of Liability

Delete clause 28.1 (a) and (b) and replace with the following:

(a) notwithstanding any provision to the contrary contained in this contract, neither the supplier nor any of its officers, directors, employees, agents contractors, consultants or other representatives shall be liable to the purchaser, whether in contract, tort, or otherwise, for any indirect, incidental, special or consequential loss or damage of any kind, including without limitation the loss of use, loss of production, or loss of profits or interest costs, loss of goodwill, lost or damaged data or software, costs of substitute products/services and/or loss of business or business opportunities (whether foreseeable or unforeseeable), provided that this exclusion shall not apply to any obligation of the supplier to pay penalties and/or damages to the purchaser;

(b) the aggregate liability of the Supplier to the Purchaser, whether under the Contract, in tort or otherwise, shall not exceed the sums insured in terms of clause 11 in respect of insurable events, or where no such amounts are stated, to an amount equal to twice the Contract price, provided that this limitation shall not apply to the cost of repairing or replacing defective equipment.

Add the following after clause 28.1:

28.2 Without detracting from, and in addition to, any of the other indemnities in this Contract, the Supplier shall be solely liable for and hereby indemnifies and holds harmless the Purchaser against all claims, charges, damages, costs, actions, liability, demands and/or proceedings and expense in connection with:

a) personal injury or loss of life to any individual;
b) loss of or damage to property;

Arising from, out of, or in connection with the performance by the Supplier in terms of this Contract, save to the extent caused by the gross negligence or wilful misconduct of the Purchaser.

28.3 The Supplier and/or its employees, agents, concessionaires, suppliers, sub-contractors or customers shall not have any claim of any nature against the purchaser for any loss, damage, injury or death which any of them may directly or indirectly suffer, whether or not such loss, damages, injury or death is caused through negligence of the Purchaser or its agents or employees.

28.4 Notwithstanding anything to the contrary contained in this Contract, under no circumstances whatsoever, including as a result of its negligent (including grossly negligent) acts or omissions or those of its servants, agents or contractors or other persons for whom in law it may be liable, shall any party or its servants (in whose favour this constitutes a *stipulation alteri*) be liable for any indirect, extrinsic, special, penal, punitive, exemplary or consequential loss or damage of any kind whatsoever, whether or not the loss was actually foreseen or reasonably foreseeable), sustained by the other party, its directors and/or servants, including but not limited to any loss of profits, loss of operation time, corruption or loss of information and/or loss of contracts.

28.5 Each party agrees to waive all claims against the other insofar as the aggregate of compensation which might otherwise be payable exceeds the aforesaid maximum amounts payable.

31. Notices

Delete clauses 31.1 and 31.2 and replace with the following:

31.1 Any notice, request, consent, approvals or other communications made between the Parties pursuant to the Contract shall be in writing and forwarded to the addresses specified in the Contract and may be given as set out hereunder and shall be deemed to have been received when:
a) hand delivered – on the day delivery of delivery or the next Working Day,
b) sent by registered mail – five (5) Working Days after mailing,
c) Sent by email or telefax – one (1) Working Day after transmission.

32. Taxes and Duties

Delete the final sentence of 32.3 and replace with the following:

. In this regard, it is the responsibility of the Tenderer to submit evidence in the form of a valid Tax Compliance Status PIN issued by SARS to the CCT at the Supplier Management Unit located within the Supplier Management / Registration Office, 2nd Floor (Concourse Level), Civic Centre, 12 Hertzog Boulevard, Cape Town (Tel 021 400 9242/3/4/5), or included with this tender.

Add the following after clause 32.3:

32.4 The VAT registration number of the CCT is 4500193497.

ADDITIONAL CONDITIONS OF CONTRACT

Add the following Clause after Clause 34:

35. Reporting Obligations

35.1 The Supplier shall complete, sign and submit with each delivery note, all the documents as required in the Specifications including Monthly Project Labour Reports (Annexure B). Any failure in this regard may result in a delay in the processing of payments.

C.7 GENERAL CONDITIONS OF CONTRACT

(National Treasury - General Conditions of Contract (revised July 2010))

TABLE OF CLAUSES

1. Definitions

1. The following terms shall be interpreted as indicated:

1.1 'Closing time' means the date and hour specified in the bidding documents for the receipt of bids.

1.2 'Contract' means the written agreement entered into between the purchaser and the supplier, as recorded in the contract form signed by the Parties, including all attachments and appendices thereto and all documents incorporated by reference therein.

1.3 'Contract price' means the price payable to the supplier under the contract for the full and proper performance of his or her contractual obligations.

1.4 'Corrupt practice' means the offering, giving, receiving, or soliciting of anything of value to influence the action of a public official in the procurement process or in contract execution.

1.5 'Countervailing duties' are imposed in cases in which an enterprise abroad is subsidised by its government and encouraged to market its products internationally.

1.6 ‘Country of origin’ means the place where the goods were mined, grown or produced or from which the services are supplied. Goods are produced when, through manufacturing, processing or substantial and major assembly of components, a commercially recognised new product results that is substantially different in basic characteristics or in purpose or utility from its components.

1.7 ‘Day’ means calendar day.

1.8 ‘Delivery’ means delivery in compliance with the conditions of the contract or order.

1.9 ‘Delivery ex stock’ means immediate delivery directly from stock actually on hand.

1.10 ‘Delivery into consignee’s store or to his site’ means delivered and unloaded in the specified store or depot or on the specified site in compliance with the conditions of the contract or order, the supplier bearing all risks and charges involved until the supplies are so delivered and a valid receipt is obtained.

1.11 ‘Dumping’ occurs when a private enterprise abroad markets its goods on its own initiative in the RSA at lower prices than that of the country of origin, and which action has the potential to harm the local industries in the RSA.

1.12 ‘Force majeure’ means an event beyond the control of the supplier, not involving the supplier’s fault or negligence, and not foreseeable. Such events may include, but are not restricted to, acts of the purchaser in its sovereign capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions and freight embargoes.

1.13 ‘Fraudulent practice’ means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of any bidder, and includes collusive practice among bidders (prior to or after bid submission) designed to establish bid prices at artificial, non-competitive levels and to deprive the bidder of the benefits of free and open competition.

1.14 ‘GCC’ means the General Conditions of Contract.

1.15 ‘Goods’ means all of the equipment, machinery, and/or other materials that the supplier is required to supply to the purchaser under the contract.

1.16 ‘Imported content’ means that portion of the bidding price represented by the cost of components, parts or materials which have been or are still to be imported (whether by the supplier or his subcontractors) and
which costs are inclusive of the costs abroad, plus freight and other direct importation costs such as landing costs, dock dues, import duty, sales duty or other similar tax or duty at the South African place of entry as well as transportation and handling charges to the factory in the Republic where the supplies covered by the bid will be manufactured.

1.17 ‘Local content’ means that portion of the bidding price which is not included in the imported content, provided that local manufacture does take place.

1.18 ‘Manufacture’ means the production of products in a factory using labour, materials, components and machinery, and includes other, related value-adding activities.

1.19 ‘Order’ means an official written order issued for the supply of goods or works or the rendering of a service.

1.20 ‘Project site’, where applicable, means the place indicated in bidding documents.

1.21 ‘Purchaser’ means the organisation purchasing the goods.

1.22 ‘Republic’ means the Republic of South Africa.

1.23 ‘SCC’ means the Special Conditions of Contract.

1.24 'Services' means those functional services ancillary to the supply of the goods, such as transportation and any other incidental services, such as installation, commissioning, provision of technical assistance, training, catering, gardening, security, maintenance, and other such obligations of the supplier covered under the contract.

1.25 'Written' or 'in writing' means handwritten in ink or any form of electronic or mechanical writing.

2. Application

2.1 These general conditions are applicable to all bids, contracts and orders, including bids for functional and professional services, sales, hiring, letting and the granting or acquiring of rights, but excluding immovable property, unless otherwise indicated in the bidding documents.

2.2 Where applicable, special conditions of contract are also laid down to cover specific supplies, services or works.

2.3 Where such special conditions of contract are in conflict with these general conditions, the special conditions shall apply.

3. General

3.1 Unless otherwise indicated in the bidding documents, the purchaser shall not be liable for any expense incurred in the preparation and submission of a bid. Where applicable, a non-refundable fee for documents may be charged.

3.2 With certain exceptions, invitations to bid are only published in the Government Tender Bulletin. The Government Tender Bulletin may be obtained directly from the Government Printer, Private Bag X85, Pretoria 0001, or accessed electronically from www.treasury.gov.za.

4. Standards

4.1 The goods supplied shall conform to the standards mentioned in the bidding documents and specifications.

5. Use of contract documents and information; inspection.

5.1 The supplier shall not, without the purchaser's prior written consent, disclose the contract, or any provision thereof, or any specification, plan, drawing, pattern, sample, or information furnished by or on behalf of the purchaser in connection therewith, to any person other than a person employed by the supplier in the performance of the contract. Disclosure to any such employed person shall be made in confidence and shall extend only as far as may be necessary for the purposes of such performance.

5.2 The supplier shall not, without the purchaser's prior written consent, make use of any document or information mentioned in GCC clause 5.1, except for purposes of performing the contract.

5.3 Any document, other than the contract itself, mentioned in GCC clause 5.1 shall remain the property of the purchaser and shall be returned (all copies) to the purchaser on completion of the supplier's performance under the contract if so required by the purchaser.

5.4 The supplier shall permit the purchaser to inspect the supplier's records relating to the performance of the supplier and to have them audited by auditors appointed by the purchaser, if so required by the purchaser.

6. Patent rights

6.1 The supplier shall indemnify the purchaser against all third-party claims of infringement of patent, trademark, or industrial design rights arising from the use of the goods or any part thereof by the purchaser.

7. Performance Security

7.1 Within 30 (thirty) days of receipt of the notification of contract award, the successful bidder shall furnish to the purchaser the performance security of the amount specified in the SCC.

7.2 The proceeds of the performance security shall be payable to the purchaser as compensation for any loss resulting from the supplier's failure to complete his obligations under the contract.

1.3 The performance security shall be denominated in the currency of the contract or in a freely convertible currency acceptable to the purchaser, and shall be in one of the following forms:

a) a bank guarantee or an irrevocable letter of credit issued by a reputable bank located in the purchaser's country or abroad, acceptable to the purchaser, in the form provided in the bidding documents or another form acceptable to the purchaser; or
b) A cashier's or certified cheque.

7.4 The performance security will be discharged by the purchaser and returned to the supplier not later than 30 (thirty) days following the date of completion of the supplier's performance obligations under the contract, including any warranty obligations, unless otherwise specified in the SCC.

8. Inspections, tests and analyses

8.1 All pre-bidding testing will be for the account of the bidder.

8.2 If it is a bid condition that supplies to be produced or services to be rendered should at any stage during production or execution or on completion be subject to inspection, the premises of the bidder or contractor shall be open, at all reasonable hours, for inspection by a representative of the Department or an organisation acting on behalf of the Department.

8.3 If there are no inspection requirements indicated in the bidding documents and no mention of such is made in the contract, but during the contract period it is decided that inspections shall be carried out, the purchaser shall itself make the necessary arrangements, including payment arrangements with the testing authority concerned.

8.4 If the inspections, tests and analyses referred to in clauses 8.2 and 8.3 show the supplies to be in accordance with the contract requirements, the cost of the inspections, tests and analyses shall be defrayed by the purchaser.

8.5 Where the supplies or services referred to in clauses 8.2 and 8.3 do not comply with the contract requirements, irrespective of whether such supplies or services are accepted or not, the cost in connection with these inspections, tests or analyses shall be defrayed by the supplier.

8.6 Supplies and services which are referred to in clauses 8.2 and 8.3 and which do not comply with the contract requirements may be rejected.

8.7 Any contract supplies may on or after delivery be inspected, tested or analysed and may be rejected if found not to comply with the requirements of the contract. Such rejected supplies shall be held at the cost and risk of the supplier, who shall, when called upon, remove them immediately at his own cost and forthwith substitute them with supplies which do comply with the requirements of the contract. Failing such removal, the rejected supplies shall be returned at the suppliers cost and risk. Should the supplier fail to provide the substitute supplies forthwith, the purchaser may, without giving the supplier further opportunity to substitute the rejected supplies, purchase such supplies as may be necessary at the expense of the supplier.

8.8 The provisions of clauses 8.4 to 8.7 shall not prejudice the right of the purchaser to cancel the contract on account of a breach of the conditions thereof, or to act in terms of Clause 23 of the GCC.

9. Packing

9.1 The supplier shall provide such packing of the goods as is required to prevent their damage or deterioration during transit to their final destination, as indicated in the contract. The packing shall be sufficient to withstand, without limitation, rough handling during transit and exposure to extreme temperatures, salt and precipitation during transit, and open storage. Packing, case size and weights shall take into consideration, where appropriate, the remoteness of the goods' final destination and the absence of heavy handling facilities at all points in transit.

9.2 The packing, marking, and documentation within and outside the packages shall comply strictly with such special requirements as shall be expressly provided for in the contract, including additional requirements, if any, specified in the SCC, and in any subsequent instructions ordered by the purchaser.

10. Delivery and documents

10.1 Delivery of the goods shall be made by the supplier in accordance with the terms specified in the contract. The details of shipping and/or other documents to be furnished by the supplier are specified in the SCC.

10.2 Documents to be submitted by the supplier are specified in the SCC.

11. Insurance

11.1 The goods supplied under the contract shall be fully insured, in a freely convertible currency, against loss or damage incidental to manufacture or acquisition, transportation, storage and delivery in the manner specified in the SCC.

12. Transportation

12.1 Should a price other than an all-inclusive delivered price be required, this shall be specified in the SCC.

13. Incidental Services

13.1 The supplier may be required to provide any or all of the following services, including additional services (if any) specified in the SCC:

(a) performance or supervision of on-site assembly, and/or commissioning of the supplied goods;
(b) furnishing of tools required for the assembly and/or maintenance of the supplied goods;
(c) furnishing of a detailed operations and maintenance manual for each appropriate unit of the supplied goods;
(d) performance or supervision or maintenance and/or repair of the supplied goods, for a period of time agreed by the Parties, provided that this service shall not relieve the supplier of any warranty obligations under this contract; and
(e) Training of the purchaser's personnel, at the supplier's plant and/or on-site, in assembly, start-up, operation, maintenance, and/or repair of the supplied goods.

13.2 Prices charged by the supplier for incidental services, if not included in the contract price for the goods, shall be agreed upon in advance by the Parties and shall not exceed the prevailing rates charged to other Parties by the supplier for similar services.

14. Spare parts

14.1 As specified in the SCC, the supplier may be required to provide any or all of the following materials, notifications, and information pertaining to spare parts manufactured or distributed by the supplier:

(a) such spare parts as the purchaser may elect to purchase from the supplier, provided that this election shall not relieve the supplier of any warranty obligations under the contract; and
(b) in the event of termination of production of the spare parts:

(i) Advance notification to the purchaser of the pending termination, in sufficient time to permit the purchaser to procure needed requirements; and

(ii) Following such termination, furnishing at no cost to the purchaser, the blueprints, drawings, and specifications of the spare parts, if requested.

15. Warranty

15.1 The supplier warrants that the goods supplied under the contract are new, unused, of the most recent or current models, and that they incorporate all recent improvements in design and materials unless provided otherwise in the contract. The supplier further warrants that all goods supplied under this contract shall have no defect arising from design, materials, or workmanship (except when the design and/or material is required by the purchaser's specifications), or from any act or omission of the supplier, that may develop under normal use of the supplied goods in the conditions prevailing in the country of final destination.

15.2 This warranty shall remain valid for 12 (twelve) months after the goods, or any portion thereof, as the case may be, have been delivered to and accepted at the final destination indicated in the contract, or for 18 (eighteen) months after the date of shipment from the port or place of loading in the source country, whichever period concludes earlier, unless specified otherwise in the SCC.

15.3 The purchaser shall notify the supplier promptly, in writing, of any claims arising under this warranty.

15.4 Upon receipt of such notice, the supplier shall, within the period specified in the SCC and with all reasonable speed, repair or replace the defective goods or parts thereof, without costs to the purchaser.

15.5 If the supplier, having been notified, fails to remedy the defect(s) within the period specified in the SCC, the purchaser may proceed to take such remedial action as may be necessary, at the supplier's risk and expense and without prejudice to any other rights which the purchaser may have against the supplier under the contract.

16. Payment

16.1 The method and conditions of payment to be made to the supplier under this contract shall be specified in the SCC.

16.2 The supplier shall furnish the purchaser with an invoice accompanied by a copy of the delivery note and upon fulfilment of any other obligations stipulated in the contract.

16.3 Payments shall be made promptly by the purchaser, but in no case later than 30 (thirty) days after submission of an invoice or claim by the supplier.

16.4 Payment will be made in Rand unless otherwise stipulated in the SCC.

17. Prices

17.1 Prices charged by the supplier for goods delivered and services performed under the contract shall not vary from the prices tendered by the supplier in his bid, with the exception of any price adjustments authorized in the SCC or in the purchaser's request for bid validity extension, as the case may be.

18. Contract Amendments

18.1 No variation in or modification of the terms of the contract shall be made except by written amendment signed by the Parties concerned.

19. Assignment

19.1 The supplier shall not assign, in whole or in part, its obligations to perform under the contract, except with the purchaser's prior written consent.

20. Subcontracts

20.1 The supplier shall notify the purchaser in writing of all subcontracts awarded under this contract if not already specified in the bid. Such notification, in the original bid or later, shall not relieve the supplier from any liability or obligation under the contract.

21. Delays in the supplier's performance

21.1 Delivery of the goods and performance of services shall be made by the supplier in accordance with the time schedule prescribed by the purchaser in the contract.

21.2 If at any time during the performance of the contract, the supplier or its subcontractor(s) should encounter conditions impeding timely delivery of the goods and performance of services, the supplier shall promptly notify the purchaser in writing of the fact of the delay, its likely duration and its cause(s). As soon as practicable after receipt of the supplier's notice, the purchaser shall evaluate the situation and may at his or her discretion extend the supplier's time for performance, with or without the imposition of penalties, in which case the extension shall be ratified by the Parties by amendment of contract.

21.3 No provision in a contract shall be deemed to prohibit the obtaining of supplies or services from a national department, provincial department, or a local authority.

21.4 The right is reserved to procure, outside of the contract, small quantities of supplies; or to have minor essential services executed if an emergency arises, or the supplier's point of supply is not situated at or near the place where the supplies are required, or the supplier's services are not readily available.

21.5 Except as provided under GCC Clause 25, a delay by the supplier in the performance of its delivery obligations shall render the supplier liable to the imposition of penalties, pursuant to GCC Clause 22, unless an extension of time is agreed upon pursuant to GCC Clause 21.2 without the application of penalties.

21.6 Upon any delay beyond the delivery period in the case of a supplies contract, the purchaser shall, without cancelling the contract, be entitled to purchase supplies of a similar quality and up to the same quantity in
substitution of the goods not supplied in conformity with the contract and to return any goods delivered later at the supplier's expense and risk, or to cancel the contract and buy such goods as may be required to complete the contract and, without prejudice to his other rights, be entitled to claim damages from the supplier.

22. Penalties

22.1 Subject to GCC Clause 25, 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 pursuant to GCC Clause 23.

23. Termination for default

23.1 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:

(a) if the supplier fails to deliver any or all of the goods within the period(s) specified in the contract, or within any extension thereof granted by the purchaser pursuant to GCC Clause 21.2;
(b) if the supplier fails to perform any other obligation(s) under the contract; or
(c) If the supplier, in the judgment of the purchaser, has engaged in corrupt or fraudulent practices in competing for or in executing the contract.

23.2 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. However, the supplier shall continue performance of the contract to the extent not terminated.

23.3 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.

23.4 If a purchaser intends imposing a restriction on a supplier or any person associated with the supplier, the supplier will be allowed a time period of not more than 14 (fourteen) days to provide reasons why the envisaged restriction should not be imposed. Should the supplier fail to respond within the stipulated 14 (fourteen) days the purchaser may regard the intended penalty as not objected against and may impose it on the supplier.

23.5 Any restriction imposed on any person by the Accounting Officer/Authority will, at the discretion of the Accounting Officer/Authority, also be applicable to any other enterprise or any partner, manager, director or other person who wholly or partly exercises or exercised or may exercise control over the enterprise of the first-mentioned person, and with which enterprise or person the first-mentioned person is or was, in the opinion of the Accounting Officer/Authority, actively associated.

23.6 If a restriction is imposed, the purchaser must, within 5 (five) working days of such imposition, furnish the National Treasury with the following information:
(i) the name and address of the supplier and/or person restricted by the purchaser;
(ii) the date of commencement of the restriction;
(iii) the period of restriction; and
(iv) the reasons for the restriction.

These details will be loaded in the National Treasury's central database of suppliers or persons prohibited from doing business with the public sector.

23.7 If a court of law convicts a person of an offence as contemplated in sections 12 or 13 of the Prevention and Combating of Corrupt Activities Act, Act 12 of 2004, the court may also rule that such person's name be endorsed on the Register for Tender Defaulters. When a person's name has been endorsed on the Register, the person will be prohibited from doing business with the public sector for a period of not less than five years and not more than 10 years. The National Treasury is empowered to determine the period of restriction, and each case will be dealt with on its own merits. According to section 32 of the Act the Register must be open to the public. The Register can be perused on the National Treasury website.

24. Anti-dumping and countervailing duties and rights

24.1 When, after the date of bid, provisional payments are required, or anti-dumping or countervailing duties are imposed, or the amount of a provisional payment or anti-dumping or countervailing right is increased in respect of any dumped or subsidised import, the State is not liable for any amount so required or imposed, or for the amount of any such increase. When, after the said date, such a provisional payment is no longer required or any such anti-dumping or countervailing right is abolished, or where the amount of such provisional payment or any such right is reduced, any such favourable difference shall, on demand, be paid forthwith by the contractor to the State, or the State may deduct such amounts from moneys (if any) which may otherwise be due to the contractor in regard to supplies or services which he or she delivered or rendered, or is to deliver or render in terms of the contract or any other contract or any other amount which may be due to him or her.

25. Force majeure

25.1 Notwithstanding the provisions of GCC Clauses 22 and 23, the supplier shall not be liable for forfeiture of its performance security, damages, or termination for default if, and to the extent that, his delay in performance or other failure to perform his obligations under the contract is the result of an event of force majeure.

25.2 If a force majeure situation arises, the supplier shall notify the purchaser promptly, in writing, of such condition and the cause thereof. Unless otherwise directed by the purchaser in writing, the supplier shall continue to perform its obligations under the contract as far as is reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the force majeure event.

26. Termination for insolvency

26.1 The purchaser may at any time terminate the contract by giving written notice to the supplier if the supplier becomes bankrupt or otherwise insolvent. In this event, termination will be without compensation to the supplier, provided that such termination will not prejudice or affect any right of action or remedy which has accrued or will accrue thereafter to the purchaser.

27. Settlement of Disputes

27.1 If any dispute or difference of any kind whatsoever arises between the purchaser and the supplier in connection with or arising out of the contract, the Parties shall make every effort to resolve such dispute or difference amicably, by mutual consultation.

27.2 If, after 30 (thirty) days, the Parties have failed to resolve their dispute or difference by such mutual consultation, then either the purchaser or the supplier may give notice to the other party of his intention to commence with mediation. No mediation in respect of this matter may be commenced unless such notice is given to the other party.

27.3 Should it not be possible to settle a dispute by means of mediation, it may be settled in a South African court of law.

27.4 Mediation proceedings shall be conducted in accordance with the rules of procedure specified in the SCC.

27.5 Notwithstanding any reference to mediation and/or court proceedings herein,
(a) the Parties shall continue to perform their respective obligations under the contract unless they otherwise agree; and
(b) The purchaser shall pay the supplier any monies due to the supplier.

28. Limitation of Liability

28.1 Except in cases of criminal negligence or wilful misconduct, and in the case of infringement pursuant to Clause 6:
(a) the supplier shall not be liable to the purchaser, whether in contract, tort, or otherwise, for any indirect or consequential loss or damage, loss of use, loss of production, or loss of profits or interest costs, provided that this exclusion shall not apply to any obligation of the supplier to pay penalties and/or damages to the purchaser; and
(b) The aggregate liability of the supplier to the purchaser, whether under the contract, in tort or otherwise, shall not exceed the total contract price, provided that this limitation shall not apply to the cost of repairing or replacing defective equipment.

29. Governing language

29.1 The contract shall be written in English. All correspondence and other documents pertaining to the contract that is exchanged by the Parties shall also be written in English.

30. Applicable Law

30.1 The contract shall be interpreted in accordance with South African laws, unless otherwise specified in the SCC.

31. Notices

31.1 Every written acceptance of a bid shall be posted to the supplier concerned by registered or certified mail, and any other notice to him shall be posted by ordinary mail, to the address furnished in his bid or to the address notified later by him in writing; and such posting shall be deemed to be proper service of such notice.

31.2 The time mentioned in the contract documents for performing any act after such aforesaid notice has been given, shall be reckoned from the date of posting of such notice.

32. Taxes and Duties

32.1 A foreign supplier shall be entirely responsible for all taxes, stamp duties, licence fees, and other such levies imposed outside the purchaser’s country.

32.2 A local supplier shall be entirely responsible for all taxes, duties, licence fees, etc., incurred until delivery of the contracted goods to the purchaser.

32.3 No contract shall be concluded with any bidder whose tax matters are not in order. Prior to the award of a bid the Department must be in possession of a tax clearance certificate submitted by the bidder. This certificate must be an original issued by the South African Revenue Services.

33. National Industrial Participation (NIP) Programme

33.1 The NIP Programme administered by the Department of Trade and Industry shall be applicable to all contracts that are subject to the NIP obligation.

34 Prohibition of Restrictive practices

34.1 In terms of section 4 (1) (b) (iii) of the Competition Act, Act 89 of 1998, as amended, an agreement between or concerted practice by firms, or a decision by an association of firms, is prohibited if it is between Parties in a horizontal relationship and if a bidder(s) is/are or a contractor(s) was/were involved in collusive bidding (or bid rigging).

34.2 If a bidder(s) or contractor(s), based on reasonable grounds or evidence obtained by the purchaser, has/have engaged in the restrictive practice referred to above, the purchaser may refer the matter to the Competition Commission for investigation and possible imposition of administrative penalties as contemplated in the Competition Act, Act 89 of 1998.

34.3 If a bidder(s) or contractor(s) has/have been found guilty by the Competition Commission of the restrictive practice referred to above, the purchaser may, in addition and without prejudice to any other remedy provided for, invalidate the bid(s) for such item(s) offered, and/or terminate the contract in whole or part, and/or restrict the bidder(s) or contractor(s) from conducting business with the public sector for a period not exceeding 10 (ten) years and/or claim damages from the bidder(s) or contractor(s) concerned.

C.8 ANNEXURES

Annexure A – Pro Forma Insurance Broker's Warranty

Broker Logo

f supplier's Insurance Broker

Date _____

CCT
City Manager
Civic Centre
12 Hertzog Boulevard
Cape Town
8000

Dear Sir

***TENDER NO.**:* *2023/24*

TENDER DESCRIPTION:

NAME OF SUPPLIER: _____

I, the undersigned, do hereby confirm and warrant that all the insurances required in terms of the abovementioned contract have been issued and/or in the case of blanket/umbrella policies, have been endorsed to reflect the interests of the CCT with regard to the abovementioned contract, and that all the insurances and endorsements, etc., are all in accordance with the requirements of the contract.

I furthermore confirm that all premiums in the above regard have been paid.

Yours faithfully

Signed: _____

For: _____ *(Supplier's Insurance Broker)*

Annexure B – Monthly Project Labour Report

ANNEX 1

CITY OF CAPE TOWN
MONTHLY PROJECT LABOUR REPORT

CITY OF CAPE TOWN
ISIXEKO SASEKAPA
STAD KAAPSTAD

Instructions for completing and submitting forms

General

1 The Monthly Project Labour Reports must be completed in full, using typed, proper case characters; alternatively, should a computer not be available, handwritten in black ink.
2 Incomplete / incorrect / illegible forms will not be accepted.
3 Any conditions relating to targeted labour stipulated in the Contract (in the case of contracted out services or works) shall apply to the completion and submission of these forms.
4 This document is available in Microsoft Excel format upon request from the City's EPWP office, tel 021 400 9406, email EPWPLR@capetown.gov.za.

Project Details

5 If a field is not applicable insert the letters: NA
6 Only the Project Number supplied by the Corporate EPWP Office must be inserted. The Project Number can be obtained from the Coordinator or Project Manager or from the e-mail address in point 4 above.
7 On completion of the contract or works project the anticipated end date must be updated to reflect the actual end date.

Beneficiary Details and Work Information

8 Care must be taken to ensure that beneficiary details correspond accurately with the beneficiary's ID document.
9 A new beneficiary is one in respect of which a new employment contract is signed in the current month. A certied ID copy must accompany this labour report on submission.
10 Was the beneficiary sourced from the City's job seeker database?
11 The contract end date as stated in the beneficiary's employment contract.
12 Where a beneficiary has not worked in a particular month, the beneficiary's name shall not be reflected on this form at all for the month in question.
13 Training will be recorded separately from normal working days and together shall not exceed the maximum of 23 days per month
14 Workers earning more than the maximum daily rate (currently R450 excluding any benefits) shall not be reflected on this form at all.

Submission of Forms

15 Signed hardcopy forms must be scanned and submitted to the City's project manager in electronic (.pdf) format, together with the completed form in Microsoft Excel format.
16 Scanned copies of all applicable supporting documentation must be submitted along with each monthly project labour report. Copies of employment contracts and ID documents are only required in respect of new beneficiaries.
17 If a computer is not available hardcopy forms and supporting documentation will be accepted.

PROJECT DETAILS

Numbers in cells below e.g (6) refer to the relevant instruction above for completing and submitting forms

CONTRACT OR WORKS PROJECT NAME: (6)		EPWP SUPPLIED PROJECT NUMBER: (6)	
DIRECTORATE:		DEPARTMENT:	
CONTRACTOR OR VENDOR NAME:		CONTRACTOR OR VENDOR E-MAIL ADDRESS:	
CONTRACTOR OR VENDOR CONTACT PERSON:		CONTRACTOR OR VENDOR TEL. NUMBER:	CELL WORK

PROJECT LABOUR REPORT CURRENT MONTH (mark with "X")

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR				

ACTUAL START DATE (yyyy/mm/dd)								ANTICIPATED / ACTUAL END DATE (yyyy/mm/dd) (7)							

TOTAL PROJECT EXPENDITURE / VALUE OF WORK DONE TO-DATE (INCLUDING ALL COSTS, BUT EXCLUDING VAT)

R													

ANNEX 1 (continued)

MONTHLY PROJECT LABOUR REPORT

CITY OF CAPE TOWN
ISIXEKO SASEKAPA
STAD KAAPSTAD

BENEFICIARY DETAILS AND WORK INFORMATION

CONTRACT OR WORKS PROJECT NUMBER:		Year	Month	Sheet		
				1	of	

	(8)	(8)	(8)	(9)			(10)		(11)	(12)	(13)	(14)
No.	First name	Surname	ID number	New Beneficiary (Y/N)	Gender (M/F)	Disabled (Y/N)	Job seeker database (Y/N)	Contract start date (DDMMYY)	Contract end date (DDMMYY)	No. days worked this month (excl. training)	Training days	Rate of pay per day (R – c)
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
										0	0	R -

Declared by Contractor or Vendor to be true and correct:	Name		Signature	
	Date			

Received by Employer's Agent / Representative:	Name		Signature	
	Date			

Annexure C - Pro Forma Performance Security/ Guarantee

GUARANTEE PERFORMANCE SECURITY

GUARANTOR *DETAILS AND DEFINITIONS*

"Guarantor" means: .....

Physical address of Guarantor: .....

"Supplier" means: .....

"Contract Sum" means: The accepted tender amount (INCLUSIVE OF VAT) of R.....

Amount in words: .....

"Guaranteed Sum" means: The maximum amount of R .....

Amount in words: .....

"Contract" means: The agreement made in terms of the Form of Offer and Acceptance for tender no …and such amendments or additions to the contract as may be agreed in writing between the Parties.

PERFORMANCE GUARANTEE

1. *The Guarantor's liability shall be limited to the amount of the Guaranteed Sum.*

2. *The Guarantor's period of liability shall be from and including the date of issue of this Guarantee/Performance Security up to and including the termination of the Contract or the date of payment in full of the Guaranteed Sum, whichever occurs first.*

3. *The Guarantor hereby acknowledges that:*

    3.1 any reference in this Guarantee/Performance to "Contract" is made for the purpose of convenience and shall not be construed as any intention whatsoever to create an accessory obligation or any intention whatsoever to create a suretyship;

    3.2 Its obligation under this Guarantee/Performance Security is restricted to the payment of money.

4. *Subject to the Guarantor's maximum liability referred to in 1, the Guarantor hereby undertakes to pay the CCT the sum due and payable upon receipt of the documents identified in 4.1 to 4.2:*

    4.1 A copy of a first written demand issued by the CCT to the Supplier stating that payment of a sum which is due and payable has not been made by the Supplier in terms of the Contract and failing such payment within seven (7) calendar days, the CCT intends to call upon the Guarantor to make payment in terms of 4.2;

    4.2 A first written demand issued by the CCT to the Guarantor at the Guarantor's physical address with a copy to the Supplier stating that a period of seven (7) days has elapsed since the first written demand in terms of 4.1 and the sum has still not been paid.

5. *Subject to the Guarantor's maximum liability referred to in 1, the Guarantor undertakes to pay to the CCT the Guaranteed Sum or the full outstanding balance upon receipt of a first written demand from the CCT to the Guarantor at the Guarantor's physical address calling up this Guarantee / Performance Security, such demand stating that:*

    5.1 The Contract has been terminated due to the Supplier's default and that this Guarantee/Performance Security is called up in terms of 5; or

    5.2 a provisional or final sequestration or liquidation court order has been granted against the Supplier and that the Guarantee/Performance Guarantee is called up in terms of 5; and

    5.3 The aforesaid written demand is accompanied by a copy of the notice of termination and/or the

provisional/final sequestration and/or the provisional liquidation court order.

6. *It is recorded that the aggregate amount of payments required to be made by the Guarantor in terms of 4 and 5 shall not exceed the Guarantor's maximum liability in terms of 1.*

7. *Where the Guarantor has made payment in terms of 5, the CCT shall upon the termination date of the Contract, submit an expense account to the Guarantor showing how all monies received in terms of this Guarantee/Performance Security have been expended and shall refund to the Guarantor any resulting surplus. All monies refunded to the Guarantor in terms of this Guarantee/Performance Security shall bear interest at the prime overdraft rate of the CCT's bank compounded monthly and calculated from the date payment was made by the Guarantor to the CCT until the date of refund.*

8. *Payment by the Guarantor in terms of 4 or 5 shall be made within seven (7) calendar days upon receipt of the first written demand to the Guarantor.*

9. *The CCT shall have the absolute right to arrange its affairs with the Supplier in any manner which the CCT may deem fit and the Guarantor shall not have the right to claim his release from this Guarantee /Performance Security on account of any conduct alleged to be prejudicial to the Guarantor.*

10. *The Guarantor chooses the physical address as stated above for the service of all notices for all purposes in connection herewith.*

11. *This Guarantee/Performance Security is neither negotiable nor transferable and shall expire in terms of 2, where after no claims will be considered by the Guarantor. The original of this Guarantee / Performance Security shall be returned to the Guarantor after it has expired.*

12. *This Guarantee/Performance Security, with the required demand notices in terms of 4 or 5, shall be regarded as a liquid document for the purposes of obtaining a court order.*

13. *Where this Guarantee/Performance Security is issued in the Republic of South Africa the Guarantor hereby consents in terms of Section 45 of the Magistrate's Courts Act No 32 of 1944, as amended, to the jurisdiction of the Magistrate's Court of any district having jurisdiction in terms of Section 28 of the said Act, notwithstanding that the amount of the claim may exceed the jurisdiction of the Magistrate's Court.*

Signed at .....

Date .....

Guarantor's signatory (1) .....

Capacity .....

Guarantor's signatory (2) .....

Capacity .....

Witness signatory (1) .....

Witness signatory (2) .....

Annexure D - Pro Forma Advance Payment Guarantee

ADVANCE PAYMENT GUARANTEE

GUARANTOR DETAILS AND DEFINITIONS

"Guarantor" means: .....

Physical address of guarantor: .....

"Supplier" means: .....

"Contract Sum" means: The accepted tender amount (INCLUSIVE of VAT) of R .....

Amount in words: .....

"Contract" means: The agreement made in terms of the Form of Offer and Acceptance and such amendments or additions to the Contract as may be agreed in writing between the Parties.

"Plant and materials" means: The Plant and materials in respect of which an advance payment prior to manufacture is required, which the CCT has agreed may be subject to advance payment, such Plant and materials being listed in the Schedule of Plant and materials.

“Schedule of Plant and materials” means: A list of Plant and materials which shows the value thereof to be included in the Guaranteed Advance Payment Sum.

"Guaranteed Advance Payment Sum" means: The maximum amount of R.....

Amount in words: .....

1. The Guarantor's liability shall be limited to the amount of the Guaranteed Advance Payment Sum.

2. The Guarantor's period of liability shall be from and including the date of issue of this Advance Payment Guarantee and up to and including the termination of the Contract or the date of payment in full of the Guaranteed Advance Payment Sum, whichever occurs first.

3. The Guarantor hereby acknowledges that:

3.1 any reference in this Advance Payment Guarantee to the Contract is made for the purpose of convenience and shall not be construed as any intention whatsoever to create an accessory obligation or any intention whatsoever to create a suretyship;

3.2 Its obligation under this Advance Payment Guarantee is restricted to the payment of money.

4. Subject to the Guarantor's maximum liability referred to in 1, the Guarantor hereby undertakes to pay the CCT the sum advanced to the Supplier upon receipt of the documents identified in 4.1 to 4.2:

4.1 A copy of a first written demand issued by the CCT to the Supplier stating that payment of a sum advanced by the CCT has not been repaid by the Supplier in terms of the Contract (“default”) and failing such payment within seven (7) calendar days, the CCT intends to call upon the Guarantor to make payment in terms of 4.2;

4.2 A first written demand issued by the CCT to the Guarantor at the Guarantor's physical address with a copy to the Supplier stating that a period of seven (7) calendar days has elapsed since the first written demand in terms of 4.1 and the sum advanced has still not been repaid by the Supplier.

5. Subject to the Guarantor's maximum liability referred to in 1, the Guarantor undertakes to pay to the CCT the Guaranteed Advance Payment Sum or the full outstanding balance not repaid upon receipt of a first written demand from the CCT to the Guarantor at the Guarantor's physical address calling up this Advance Payment Guarantee, such demand stating that:

5.1 the Contract has been terminated due to the Supplier’s default and that this Advance Payment

Guarantee is called up in terms of 5; or

5.2 a provisional or final sequestration or liquidation court order has been granted against the Supplier and that the Advance Payment Guarantee is called up in terms of 5; and

5.3 The aforesaid written demand is accompanied by a copy of the notice of termination and/or the provisional/final sequestration and/or the provisional liquidation court order.

6. It is recorded that the aggregate amount of payments required to be made by the Guarantor in terms of 4 and 5 shall not exceed the Guarantor's maximum liability in terms of 1.

7. Payment by the Guarantor in terms of 4 or 5 shall be made within seven (7) calendar days upon receipt of the first written demand to the Guarantor.

9. The CCT shall have the absolute right to arrange its affairs with the Supplier in any manner which the CCT may deem fit and the Guarantor shall not have the right to claim his release from this Advance Payment Guarantee on account of any conduct alleged to be prejudicial to the Guarantor.

10. The Guarantor chooses the physical address as stated above for the service of all notices for all purposes in connection herewith.

11. This Advance Payment Guarantee is neither negotiable nor transferable and shall expire in terms of 2, where after no claims will be considered by the Guarantor. The original of this Guarantee shall be returned to the Guarantor after it has expired.

12. This Advance Payment Guarantee, with the required demand notices in terms of 4 or 5, shall be regarded as a liquid document for the purposes of obtaining a court order.

13. Where this Guarantee/Performance Security is issued in the Republic of South Africa the Guarantor hereby consents in terms of Section 45 of the Magistrate's Courts Act No 32 of 1944, as amended, to the jurisdiction of the Magistrate's Court of any district having jurisdiction in terms of Section 28 of the said Act, notwithstanding that the amount of the claim may exceed the jurisdiction of the Magistrate's Court.

Signed at .....

Date .....

Guarantor's signatory (1) .....

Capacity .....

Guarantor's signatory (2) .....

Capacity .....

Witness signatory (1) .....

Witness signatory (2) .....

APPROVED FINANCIAL INSTITUTION AS AT 28 FEBRUARY 2023:

1.1 National Banks

- ABSA Bank Limited
- FirstRand Bank Limited
- Investec Bank Limited
- Nedbank Limited
- Standard Bank of South Africa Limited

1.2 International Banks (with branches in South Africa)

- Barclays Bank PLC
- Citibank NA
- Credit Agricole Corporate and Investment Bank
- HSBC Bank PLC
- JPMorgan Chase Bank
- Societe Generale
- Standard Chartered Bank

1.3 Insurance Companies

- American International Group Inc. (AIG)
- Bryte Insurance Company Limited
- Coface SA
- Compass Insurance Company Limited
- Credit Guarantee Insurance Corporation of Africa Limited
- Guardrisk Insurance Company Limited
- Hollard Insurance Company Limited
- Infiniti Insurance Limited
- Lombard Insurance Company Limited
- Mutual and Federal Risk Financing Limited
- New National Assurance Company Limited
- PSG Konsult Ltd (previously Absa Insurance)
- Regent Insurance Company Limited
- Renasa Insurance Company Limited
- Santam Limited…]

Annexure F - Tender Returnable Documents

Schedule F.1: Contract Price Adjustment

1. TENDER CONDITIONS

1.1 The Contract Price Adjustment (CPA) mechanism and/or provisions relating to Rate of Exchange (RoE) Variation, contained in this schedule is compulsory and binding on all Tenderers/Suppliers and this schedule (the parts relevant to the particular tender) must be completed by all Tenderers / Suppliers.

1.2 Tenderers/Suppliers are not permitted to amend, vary, alter or delete this schedule or any part thereof unless otherwise stated in this schedule.

1.3 Tenderers are not permitted to offer fixed and firm prices except as provided for in the Price Schedule.

2. CPA PROVISIONS SELECTION

2.1 The prices stipulated on the Price Schedule are subject to adjustment as set out below.

2.2 Tenderer to indicate the specific CPA and/or RoE provisions applicable to their bid by marking the relevant checkboxes below. Tenderers to note that the CPA and/or RoE provisions are not exclusive and multiple CPA Types can exist if the bid contains both local and foreign exchange based pricing. In such cases the CPA and/or ROE provision applies only to that particular portion of the tendered price.

2.3 The CPA and/or RoE provisions applicable to this tender and resulting contract are to be indicated below by checking the relevant boxes (with multiple selections only where indicated permissible):

	Indicate option	CPA Type	Period	Refer to Section
A	N/A	**FIRM PRICES** as per Pricing Schedule	Annual	*Pricing Schedule C.4 and Schedule F.1 (A)*
		LOCAL (RSA) TENDER CONTENT:		
		EITHER		
B		SEIFSA Index based CPA	Monthly	*Schedule F.1 (B)*
		OR		
C		Pricelist / Quotation Based CPA	Ad-Hoc	*Schedule F.1 (C)*
		OR		
D	N/A	STATS SA CPI Index Based CPA	Annually	*Schedule F.1 (D)*
		OR/AND		
E	N/A	Sectorial Determination 1:Contract Cleaning Sector	Annually	*Schedule F.1 (E)*
		OR		
E	N/A	Sectorial Determination 6: Private Security Sector	Annually	*Schedule F.1 (E)*
		IMPORTED GOODS AND / OR COMPONENTS (IF APPLICABLE		
F		ROE based CPA	Ad-Hoc	*Schedule F.1 (F)*
		AND (IF REQUIRED), EITHER		
G		Pricelist / Quotation based CPA	Ad-Hoc / Periodic	*Schedule F.1 (G)*
		OR		
H		Overseas CPI / PPI index based CPA	Ad-Hoc / Periodic	*Schedule F.1 (H)*

2.4 CPA and/or RoE provisions marked as **not applicable** is not relevant and will not apply to this tender and resulting contract.

3. CONTRACT CPA APPLICATIONS AND ADMINISTRATION

3.1 Any claim for variation in the contract price (either CPA or RoE adjustments) must be submitted in writing:

i. By letter to: Director Mr Edgar Capes, City of Cape Town,
P O Box 655, Cape Town, 8000 or
ii. By email to: EAMCPA.Request@capetown.gov.za; Patrick.O'Halloran@capetown.gov.za

at least 14 days prior to the month upon which the adjustment would become effective in the case of prices being set in advance, and as soon as relevant indices are available and no later than 60 days after the date of delivery of goods or the completion of the project (i.e. date of issue of the Taking-Over Certificate, if applicable) in the case of adjustments being claimed retrospectively for Goods or Services. The latter case is only applicable where specifically provided for in the CPA provisions.

3.2 When submitting a request for CPA and/or RoE adjustment the Supplier shall indicate the Rand Value claimed for each item listed on C.4 - Price Schedule, clearly indicating the item number as per C.4 - Price Schedule. Percentage increases will not be considered. A mere notification of a request for CPA without stating the new price claimed for each item shall, for the purpose of this clause, not be regarded as a valid request.

3.3 The CCT reserves the right to request the Supplier to submit auditor's certificates or such other documentary proof as it may require in order to verify a claim for CPA or RoE adjustments. Price adjustments will not be processed until such time as the Supplier submits such auditor's certificates or other documentary proof to the CCT. Should the Supplier fail to submit the auditor's certificates or other documentary proof to the CCT within 30 days from the written request, it shall be presumed that the Supplier has abandoned his request.

3.4 The CCT reserves the right to withhold payment of any claim for adjustment while only provisional figures are available and until such time as the final (revised) figures are issued by the relevant authority.

3.5 The CCT will confirm in writing once processing of the CPA or RoE adjustments have been completed including the effective date of the adjustments.

3.6 Where pricelist-based and other non-index based CPA requests are investigated and found to be not reasonable and market related, the CCT reserves the right to reject such requests. Where disputes arise with respect to such rejected requests the CCT reserves the right to procure the Goods from other available Suppliers until such time as the dispute is resolved.

3.7 Unless indicated otherwise in the relevant schedule below, all Purchase Orders issued on or after the effective date of the adjustment shall be issued at, and the Goods or Services supplied, invoiced and paid for at the adjusted prices. The relevant adjustment will not be applied to Purchase Orders issued prior to the effective date.

F.1 (A) – FIRM PRICES

NOT APPLICABLE

F.1 (B) LOCAL SOUTH AFRICAN CONTENT – SEIFSA INDICES

1. Tenderers/Suppliers that are manufacturers of the tendered goods and that indicate CPA provision above based on SEIFSA Indices shall comply with the conditions specified below and shall complete Table F.1 (B).1: SEIFSA Base Material and Labour Prices in full.

2. Material, labour and / or road freight price variation shall be calculated based upon the SEIFSA base material, labour and / or road freight prices / indices and the price proportions indicated by the Tenderer/Supplier for the Goods tendered, as detailed in Table F.1 (B).1: SEIFSA Base Material and Labour prices.

3. For items that are also subject to RoE and / or Overseas Pricelist / Quotation based CPA, the SEIFSA index-based CPA **shall apply only to the South African Content portion**.

4. A minimum of 10% of the **South African Content portion of** the tender price shall be fixed and free of variation for the duration of the contract.

5. The contract price per item shall be adjusted monthly in advance of placement of orders, and the adjusted contract price shall be applicable for purchase orders placed during the following full calendar month.

6. Fluctuations in the prices of raw materials, labour and road freight will be acceptable for the item price in C.4 Price Schedule, CPA calculations.

7. The base month for CPA calculations shall be the calendar month prior to the month of the closing date for tenders, and SEIFSA indices published in this month shall be used.

8. Adjusted contract prices per item shall be calculated based upon the SEIFSA indices published in the calendar month of application for the amended item contract prices.

9. Material and labour price variation shall be calculated based upon the SEIFSA base material and labour indices and the stipulated price proportions as detailed in Table F.1 (B).1.

10. The process to be followed by Tenderers/Suppliers for claims for CPA in terms of SEIFSA shall be as follows:

    a) The Tenderers/Suppliers shall approach the CCT in writing during the week following the third Friday of each month with an application for the adjustment of the contract prices in C.4 Price Schedule and the amended prices to be applicable to the contract during the following calendar month.

    b) The application shall be based upon the SEIFSA indices published during the calendar month of application (those published on the Monday following the third Friday of the month and detailing the latest available indices) and shall detail the proposed adjusted unit prices for the Items and include detailed calculations indicating how the adjusted unit prices per item have been established.

    c) Calculations of the CPA shall use the original tendered unit rates, the base indices, the indices published in the calendar month of application and the SEIFSA formula and shall contain no other factors or adjustments.

    d) The CCT will check and approve the proposed unit prices for the following month prior to the last day of the month of application. The CCT will notify the Tenderers/Suppliers in writing of approval of the proposed prices.

    e) All purchase orders for the contracted Items issued during a month shall be issued, invoiced and paid at the contract unit prices approved for that month and no further SEIFSA based contract price adjustment claims will be considered, irrespective of the actual month of delivery and whether or not deliveries were subject to any manufacturing or delivery delays.

    f) The required delivery dates for orders placed by the Employer for the contracted Items will be determined based upon the date of issue of the purchase order and the contract delivery period. Delays in the delivery of the Items for orders placed by the CCT shall not entitle the Tenderers /Suppliers to any amendment of the approved contract price adjustment applicable to that order.

    g) Failure by the Tenderers/Suppliers to submit claims for CPA within the timeframes detailed above will result in the unit rates for the items concerned being determined by the CCT in accordance with the published SEIFSA indices. The CCT however reserves the right in such a case not to amend the unit

rates for the item if it is not to the CCT's advantage.

h) The successful Tenderers/Suppliers shall immediately upon notification of commencement date of contract (or date of issue of first PO) submit written application for approval of adjustment to the contract prices in C.4 Price Schedule that shall be applicable during the first calendar month of the contract. This application will be assessed in accordance with the process laid out above in order to determine approved contract prices for the first calendar month of the contract.

i) Failure to submit such application within two working weeks of commencement of contract shall result in the tendered unit prices in C.4 Price Schedule being applied for orders placed during the first calendar month of the contract.

j) Application for CPA thereafter shall follow the process detailed above.

TABLE F.1 (B).1: SEIFSA BASE MATERIAL AND LABOUR PRICES

Where Tender prices are subject to adjustment the prices quoted shall be subject to price variation based upon the SEIFSA base prices or indices for materials and labour detailed below.

For the purposes of this tender the **base month** shall be **JUNE 2025**

No	MATERIAL / MATERIAL CATEGORY	SEIFSA TABLE No	SEIFSA ITEM DESCRIPTION / SUB- CATEGORY	BASE MONTH
1	Copper	Table F	RCP Metric Ton	
2	Aluminum	Table R	99.70 EC Grade	
3	Steel	Table E-EX	Hot Rolled Sheet	
4	Corrosion resistant steel (3CR12)	Table Q- 1(A)	Hot Rolled Plate	
5	ETSA Distribution Transformer Indices	Table J-3A	Transformer Oil	
6	ETSA Distribution Transformer Indices	Table J-3A	Insulation	
7	ETSA Distribution Transformer Indices	Table J-3A	Tap Switch	
8	ETSA Distribution Transformer Indices	Table J-3A	Bushings	
9	ETSA Distribution Transformer Indices	Table J-3A	Electrical Steel	
10	SA Production Price Index (Electrical Engineering Materials)	Table G-1	Electrical Engineering Materials	
11	Actual Labour Costs (Hourly paid employees)	Table C-3		
12	Stats SA Consumer Price Index (CPI)	Table D-2		

TENDERER/SUPPLIER TO NOTE:

a) This Schedule is only applicable if the Tenderer/Supplier is the Manufacturer of the Goods
b) A Minimum of 10% of the tendered local South African price must remain fixed.

TABLE F.1 (B). (Cont'd): SEIFSA BASE MATERIAL AND LABOUR PRICES

ITEM CATEGORY A:
POLE MOUNTED TRANSFORMERS
(Information to be supplied with Tender)

Where Tender prices are subject to adjustment the Local (South African) Content prices quoted shall be subject to price variation based upon the SEIFSA base prices or indices for materials and labour detailed below.
For the purposes of this tender the **base month shall be June 2025**

No	MATERIAL / MATERIAL CATEGORY	SEIFSA TABLE No	SEIFSA ITEM DESCRIPTION / SUB-CATEGORY	PROPORTION OF PRICE (%)						
				Item No						
				A1	A2	A3	A4	A5	A6	A7
1	Copper	Table F	RCP Metric Ton							
2	Aluminum	Table R	99.70 EC Grade							
3	Steel	Table E-EX	Hot Rolled Sheet							
4	Corrosion resistant steel (3CR12)	Table Q- 1(A)	Hot Rolled Plate							
5	ETSA Distribution Transformer Indices	Table J-3A	Transformer Oil							
6	ETSA Distribution Transformer Indices	Table J-3A	Insulation							
7	ETSA Distribution Transformer Indices	Table J-3A	Tap Switch							
8	ETSA Distribution Transformer Indices	Table J-3A	Bushings							
9	ETSA Distribution Transformer Indices	Table J-3A	Electrical Steel							
10	SA Production Price Index (Electrical Engineering Materials)	Table G-1	Electrical Engineering Materials							
11	Actual Labour Costs (Hourly paid employees)	Table C-3								
12	Stats SA Consumer Price Index (CPI)	Table D-2								
13	Fixed Cost (Minimum of 10%)	-	-	10	10	10	10	10	10	10
	Total (100%):									

ITEM CATEGORY B:
DISTRIBUTION TRANSFORMERS
(Information to be supplied with Tender)

Where Tender prices are subject to adjustment the Local (South African) Content prices quoted shall be subject to price variation based upon the SEIFSA base prices or indices for materials and labour detailed below.
For the purposes of this tender the **base month shall be June 2025**

No	MATERIAL / MATERIAL CATEGORY	SEIFSA TABLE No	SEIFSA ITEM DESCRIPTION / SUB-CATEGORY	PROPORTION OF PRICE (%)						
				Item No						
				B1	B2	B3	B4	B5	B6	B7
1	Copper	Table F	RCP Metric Ton							
2	Aluminum	Table R	99.70 EC Grade							
3	Steel	Table E-EX	Hot Rolled Sheet							
4	Corrosion resistant steel (3CR12)	Table Q- 1(A)	Hot Rolled Plate							
5	ETSA Distribution Transformer Indices	Table J-3A	Transformer Oil							
6	ETSA Distribution Transformer Indices	Table J-3A	Insulation							
7	ETSA Distribution Transformer Indices	Table J-3A	Tap Switch							
8	ETSA Distribution Transformer Indices	Table J-3A	Bushings							
9	ETSA Distribution Transformer Indices	Table J-3A	Electrical Steel							
10	SA Production Price Index (Electrical Engineering Materials)	Table G-1	Electrical Engineering Materials							
11	Actual Labour Costs (Hourly paid employees)	Table C-3								
12	Stats SA Consumer Price Index (CPI)	Table D-2								
13	Fixed Cost (Minimum of 10%)	-	-	10	10	10	10	10	10	10
	Total (100%):									

ITEM CATEGORY B:
DISTRIBUTION TRANSFORMERS (CONTINUE)
(Information to be supplied with Tender)

Where Tender prices are subject to adjustment the Local (South African) Content prices quoted shall be subject to price variation based upon the SEIFSA base prices or indices for materials and labour detailed below.
For the purposes of this tender the **base month shall be June 2025**

No	MATERIAL / MATERIAL CATEGORY	SEIFSA TABLE No	SEIFSA ITEM DESCRIPTION / SUB- CATEGORY	PROPORTION OF PRICE (%)						
				Item No						
				B8	B9	B10				
1	Copper	Table F	RCP Metric Ton							
2	Aluminum	Table R	99.70 EC Grade							
3	Steel	Table E-EX	Hot Rolled Sheet							
4	Corrosion resistant steel (3CR12)	Table Q- 1(A)	Hot Rolled Plate							
5	ETSA Distribution Transformer Indices	Table J-3A	Transformer Oil							
6	ETSA Distribution Transformer Indices	Table J-3A	Insulation							
7	ETSA Distribution Transformer Indices	Table J-3A	Tap Switch							
8	ETSA Distribution Transformer Indices	Table J-3A	Bushings							
9	ETSA Distribution Transformer Indices	Table J-3A	Electrical Steel							
10	SA Production Price Index (Electrical Engineering Materials)	Table G-1	Electrical Engineering Materials							
11	Actual Labour Costs (Hourly paid employees)	Table C-3								
12	Stats SA Consumer Price Index (CPI)	Table D-2								
13	Fixed Cost (Minimum of 10%)	-	-	10	10	10				
	Total (100%):									

ITEM CATEGORY C:
MINIATURE SUBSTATIONS
(Information to be supplied with Tender)

Where Tender prices are subject to adjustment the Local (South African) Content prices quoted shall be subject to price variation based upon the SEIFSA base prices or indices for materials and labour detailed below.
For the purposes of this tender the **base month shall be June 2025**

No	MATERIAL / MATERIAL CATEGORY	SEIFSA TABLE No	SEIFSA ITEM DESCRIPTION / SUB- CATEGORY	PROPORTION OF PRICE (%)						
				Item No						
				C1	C2	C3	C4	C5	C6	C7
1	Copper	Table F	RCP Metric Ton							
2	Aluminum	Table R	99.70 EC Grade							
3	Steel	Table E-EX	Hot Rolled Sheet							
4	Corrosion resistant steel (3CR12)	Table Q- 1(A)	Hot Rolled Plate							
5	ETSA Distribution Transformer Indices	Table J-3A	Transformer Oil							
6	ETSA Distribution Transformer Indices	Table J-3A	Insulation							
7	ETSA Distribution Transformer Indices	Table J-3A	Tap Switch							
8	ETSA Distribution Transformer Indices	Table J-3A	Bushings							
9	ETSA Distribution Transformer Indices	Table J-3A	Electrical Steel							
10	SA Production Price Index (Electrical Engineering Materials)	Table G-1	Electrical Engineering Materials							
11	Actual Labour Costs (Hourly paid employees)	Table C-3								
12	Stats SA Consumer Price Index (CPI)	Table D-2								
13	Fixed Cost (Minimum of 10%)	-	-	10	10	10	10	10	10	10
	Total (100%):									

ITEM CATEGORY C:
MINIATURE SUBSTATIONS (CONTINUED)
(Information to be supplied with Tender)

Where Tender prices are subject to adjustment the Local (South African) Content prices quoted shall be subject to price variation based upon the SEIFSA base prices or indices for materials and labour detailed below.
For the purposes of this tender the **base month shall be June 2025**

No	MATERIAL / MATERIAL CATEGORY	SEIFSA TABLE No	SEIFSA ITEM DESCRIPTION / SUB-CATEGORY	PROPORTION OF PRICE (%)						
				Item No						
				C8	C9	C10	C11	C12		
1	Copper	Table F	RCP Metric Ton							
2	Aluminum	Table R	99.70 EC Grade							
3	Steel	Table E-EX	Hot Rolled Sheet							
4	Corrosion resistant steel (3CR12)	Table Q- 1(A)	Hot Rolled Plate							
5	ETSA Distribution Transformer Indices	Table J-3A	Transformer Oil							
6	ETSA Distribution Transformer Indices	Table J-3A	Insulation							
7	ETSA Distribution Transformer Indices	Table J-3A	Tap Switch							
8	ETSA Distribution Transformer Indices	Table J-3A	Bushings							
9	ETSA Distribution Transformer Indices	Table J-3A	Electrical Steel							
10	SA Production Price Index (Electrical Engineering Materials)	Table G-1	Electrical Engineering Materials							
11	Actual Labour Costs (Hourly paid employees)	Table C-3								
12	Stats SA Consumer Price Index (CPI)	Table D-2								
13	Fixed Cost (Minimum of 10%)	-	-	10	10	10	10	10		
	Total (100%):									

ITEM CATEGORY D:
HIGH SECURITY MINIATURE SUBSTATIONS
(Information to be supplied with Tender)

Where Tender prices are subject to adjustment the Local (South African) Content prices quoted shall be subject to price variation based upon the SEIFSA base prices or indices for materials and labour detailed below.
For the purposes of this tender the **base month shall be June 2025**

No	MATERIAL / MATERIAL CATEGORY	SEIFSA TABLE No	SEIFSA ITEM DESCRIPTION / SUB-CATEGORY	PROPORTION OF PRICE (%)						
				Item No						
				D1	D2	D3	D4	D5	D6	D7
1	Copper	Table F	RCP Metric Ton							
2	Aluminum	Table R	99.70 EC Grade							
3	Steel	Table E-EX	Hot Rolled Sheet							
4	Corrosion resistant steel (3CR12)	Table Q- 1(A)	Hot Rolled Plate							
5	ETSA Distribution Transformer Indices	Table J-3A	Transformer Oil							
6	ETSA Distribution Transformer Indices	Table J-3A	Insulation							
7	ETSA Distribution Transformer Indices	Table J-3A	Tap Switch							
8	ETSA Distribution Transformer Indices	Table J-3A	Bushings							
9	ETSA Distribution Transformer Indices	Table J-3A	Electrical Steel							
10	SA Production Price Index (Electrical Engineering Materials)	Table G-1	Electrical Engineering Materials							
11	Actual Labour Costs (Hourly paid employees)	Table C-3								
12	Stats SA Consumer Price Index (CPI)	Table D-2								
13	Fixed Cost (Minimum of 10%)	-	-	10	10	10	10	10	10	10
	Total (100%):									

ITEM CATEGORY D:
HIGH SECURITY MINIATURE SUBSTATIONS (CONTINUED)
(Information to be supplied with Tender)

Where Tender prices are subject to adjustment the Local (South African) Content prices quoted shall be subject to price variation based upon the SEIFSA base prices or indices for materials and labour detailed below.
For the purposes of this tender the **base month shall be June 2025**

No	MATERIAL / MATERIAL CATEGORY	SEIFSA TABLE No	SEIFSA ITEM DESCRIPTION / SUB-CATEGORY	PROPORTION OF PRICE (%)						
				Item No						
				D8						
1	Copper	Table F	RCP Metric Ton							
2	Aluminum	Table R	99.70 EC Grade							
3	Steel	Table E-EX	Hot Rolled Sheet							
4	Corrosion resistant steel (3CR12)	Table Q- 1(A)	Hot Rolled Plate							
5	ETSA Distribution Transformer Indices	Table J-3A	Transformer Oil							
6	ETSA Distribution Transformer Indices	Table J-3A	Insulation							
7	ETSA Distribution Transformer Indices	Table J-3A	Tap Switch							
8	ETSA Distribution Transformer Indices	Table J-3A	Bushings							
9	ETSA Distribution Transformer Indices	Table J-3A	Electrical Steel							
10	SA Production Price Index (Electrical Engineering Materials)	Table G-1	Electrical Engineering Materials							
11	Actual Labour Costs (Hourly paid employees)	Table C-3								
12	Stats SA Consumer Price Index (CPI)	Table D-2								
13	Fixed Cost (Minimum of 10%)	-	-	10						
	Total (100%):									

ITEM CATEGORY E:
HIGH SECURITY MINIATURE SUBSTATIONS
(Information to be supplied with Tender)

Where Tender prices are subject to adjustment the Local (South African) Content prices quoted shall be subject to price variation based upon the SEIFSA base prices or indices for materials and labour detailed below.
For the purposes of this tender the **base month shall be June 2025**

No	MATERIAL / MATERIAL CATEGORY	SEIFSA TABLE No	SEIFSA ITEM DESCRIPTION / SUB-CATEGORY	PROPORTION OF PRICE (%)						
				Item No						
				D8						
1	Copper	Table F	RCP Metric Ton							
2	Aluminum	Table R	99.70 EC Grade							
3	Steel	Table E-EX	Hot Rolled Sheet							
4	Corrosion resistant steel (3CR12)	Table Q- 1(A)	Hot Rolled Plate							
5	ETSA Distribution Transformer Indices	Table J-3A	Transformer Oil							
6	ETSA Distribution Transformer Indices	Table J-3A	Insulation							
7	ETSA Distribution Transformer Indices	Table J-3A	Tap Switch							
8	ETSA Distribution Transformer Indices	Table J-3A	Bushings							
9	ETSA Distribution Transformer Indices	Table J-3A	Electrical Steel							
10	SA Production Price Index (Electrical Engineering Materials)	Table G-1	Electrical Engineering Materials							
11	Actual Labour Costs (Hourly paid employees)	Table C-3								
12	Stats SA Consumer Price Index (CPI)	Table D-2								
13	Fixed Cost (Minimum of 10%)	-	-	10	10	10	10	10	10	10
	Total (100%):									

ITEM CATEGORY E:
HIGH SECURITY MINIATURE SUBSTATIONS (CONTINUED)
(Information to be supplied with Tender)

Where Tender prices are subject to adjustment the Local (South African) Content prices quoted shall be subject to price variation based upon the SEIFSA base prices or indices for materials and labour detailed below.
For the purposes of this tender the **base month shall be June 2025**

No	MATERIAL / MATERIAL CATEGORY	SEIFSA TABLE No	SEIFSA ITEM DESCRIPTION / SUB-CATEGORY	PROPORTION OF PRICE (%)						
				Item No						
				E1	E2	E3	E4	E5	E6	E7
1	Copper	Table F	RCP Metric Ton							
2	Aluminum	Table R	99.70 EC Grade							
3	Steel	Table E-EX	Hot Rolled Sheet							
4	Corrosion resistant steel (3CR12)	Table Q- 1(A)	Hot Rolled Plate							
5	ETSA Distribution Transformer Indices	Table J-3A	Transformer Oil							
6	ETSA Distribution Transformer Indices	Table J-3A	Insulation							
7	ETSA Distribution Transformer Indices	Table J-3A	Tap Switch							
8	ETSA Distribution Transformer Indices	Table J-3A	Bushings							
9	ETSA Distribution Transformer Indices	Table J-3A	Electrical Steel							
10	SA Production Price Index (Electrical Engineering Materials)	Table G-1	Electrical Engineering Materials							
11	Actual Labour Costs (Hourly paid employees)	Table C-3								
12	Stats SA Consumer Price Index (CPI)	Table D-2								
13	Fixed Cost (Minimum of 10%)	-	-	10	10	10	10	10	10	10
	Total (100%):									

ITEM CATEGORY E:
HIGH SECURITY MINIATURE SUBSTATIONS (CONTINUED)
(Information to be supplied with Tender)

Where Tender prices are subject to adjustment the Local (South African) Content prices quoted shall be subject to price variation based upon the SEIFSA base prices or indices for materials and labour detailed below.
For the purposes of this tender the **base month shall be June 2025**

No	MATERIAL / MATERIAL CATEGORY	SEIFSA TABLE No	SEIFSA ITEM DESCRIPTION / SUB-CATEGORY	PROPORTION OF PRICE (%)						
				Item No						
				E8	E9	E10	E11	E12	E13	E14
1	Copper	Table F	RCP Metric Ton							
2	Aluminum	Table R	99.70 EC Grade							
3	Steel	Table E-EX	Hot Rolled Sheet							
4	Corrosion resistant steel (3CR12)	Table Q- 1(A)	Hot Rolled Plate							
5	ETSA Distribution Transformer Indices	Table J-3A	Transformer Oil							
6	ETSA Distribution Transformer Indices	Table J-3A	Insulation							
7	ETSA Distribution Transformer Indices	Table J-3A	Tap Switch							
8	ETSA Distribution Transformer Indices	Table J-3A	Bushings							
9	ETSA Distribution Transformer Indices	Table J-3A	Electrical Steel							
10	SA Production Price Index (Electrical Engineering Materials)	Table G-1	Electrical Engineering Materials							
11	Actual Labour Costs (Hourly paid employees)	Table C-3								
12	Stats SA Consumer Price Index (CPI)	Table D-2								
13	Fixed Cost (Minimum of 10%)	-	-	10	10	10	10	10	10	10
	Total (100%):									

ITEM CATEGORY E:
HIGH SECURITY MINIATURE SUBSTATIONS (CONTINUED)
(Information to be supplied with Tender)

Where Tender prices are subject to adjustment the Local (South African) Content prices quoted shall be subject to price variation based upon the SEIFSA base prices or indices for materials and labour detailed below.
For the purposes of this tender the **base month shall be June 2025**

No	MATERIAL / MATERIAL CATEGORY	SEIFSA TABLE No	SEIFSA ITEM DESCRIPTION / SUB-CATEGORY	PROPORTION OF PRICE (%)						
				Item No						
				E15	E16	E17	E18	E19	E20	E21
1	Copper	Table F	RCP Metric Ton							
2	Aluminum	Table R	99.70 EC Grade							
3	Steel	Table E-EX	Hot Rolled Sheet							
4	Corrosion resistant steel (3CR12)	Table Q- 1(A)	Hot Rolled Plate							
5	ETSA Distribution Transformer Indices	Table J-3A	Transformer Oil							
6	ETSA Distribution Transformer Indices	Table J-3A	Insulation							
7	ETSA Distribution Transformer Indices	Table J-3A	Tap Switch							
8	ETSA Distribution Transformer Indices	Table J-3A	Bushings							
9	ETSA Distribution Transformer Indices	Table J-3A	Electrical Steel							
10	SA Production Price Index (Electrical Engineering Materials)	Table G-1	Electrical Engineering Materials							
11	Actual Labour Costs (Hourly paid employees)	Table C-3								
12	Stats SA Consumer Price Index (CPI)	Table D-2								
13	Fixed Cost (Minimum of 10%)	-	-	10	10	10	10	10	10	10
	Total (100%):									

ITEM CATEGORY E:
HIGH SECURITY MINIATURE SUBSTATIONS (CONTINUED)
(Information to be supplied with Tender)

Where Tender prices are subject to adjustment the Local (South African) Content prices quoted shall be subject to price variation based upon the SEIFSA base prices or indices for materials and labour detailed below.
For the purposes of this tender the **base month shall be June 2025**

No	MATERIAL / MATERIAL CATEGORY	SEIFSA TABLE No	SEIFSA ITEM DESCRIPTION / SUB-CATEGORY	PROPORTION OF PRICE (%)						
				Item No						
				E22	E23	E24	E25			
1	Copper	Table F	RCP Metric Ton							
2	Aluminum	Table R	99.70 EC Grade							
3	Steel	Table E-EX	Hot Rolled Sheet							
4	Corrosion resistant steel (3CR12)	Table Q- 1(A)	Hot Rolled Plate							
5	ETSA Distribution Transformer Indices	Table J-3A	Transformer Oil							
6	ETSA Distribution Transformer Indices	Table J-3A	Insulation							
7	ETSA Distribution Transformer Indices	Table J-3A	Tap Switch							
8	ETSA Distribution Transformer Indices	Table J-3A	Bushings							
9	ETSA Distribution Transformer Indices	Table J-3A	Electrical Steel							
10	SA Production Price Index (Electrical Engineering Materials)	Table G-1	Electrical Engineering Materials							
11	Actual Labour Costs (Hourly paid employees)	Table C-3								
12	Stats SA Consumer Price Index (CPI)	Table D-2								
13	Fixed Cost (Minimum of 10%)	-	-	10	10	10	10			
	Total (100%):									

F.1 (C) LOCAL SOUTH AFRICAN CONTENT - SUPPLIER/ MANUFACTURER PRICE LIST/QUOTATIONS

1. Tenderers /Suppliers that are not the manufacturer or original supplier of the tendered goods and whose tender prices are based on the price list/quotation of another company (manufacturer or other supplier) may apply Supplier / Manufacturer Pricelist / Quotation based CPA.

2. In such cases the Tenderer is required to submit with his tender a copy of the original Supplier / Manufacturer Pricelist / Quotation upon which his tender prices are based. Such pricelist / Quotation is required to be on the Letterhead of the Supplier / Manufacture, is to be dated, referenced and signed, and is to provide clear reference to the tender number and is required to clearly reference each item quoted to the respective Tender Item Number indicated in C.4 Price Schedule.

3. The tenderer shall further confirm the Manufacturer / supplier, Quotation date and reference number and applicable tender Items by completing Table F.1(C).1 below.

Table F.1(C).1: Price Schedule information for Manufacturers/Suppliers Price List(s)/Quotation

	Price List Information		
Manufacturer/ Supplier Name	Price List/Quotation Date.	Price List/Quotation Reference Number	Pricelist applicable to Items as per C.4 Price Schedule

4. During the contract period, the Tenderer (now Supplier) must submit the request for price adjustment based on increases in pricelists of manufacturers/suppliers prior to the effective date of the increase in the pricelist.
5. The effective date of any price adjustment granted will be the first day of the month following the month during which the fully substantiated application for contract price adjustment is submitted or, by agreement between the Tenderer/Supplier and the CCT, a subsequent date on which the price adjustment will become effective.

6. In instances where the Supplier's price adjustment claimed is less than entitled, the lesser price will be accepted.

7. Purchase orders placed prior to the effective date of any price increase shall be placed at the previously agreed price, not the claimed adjusted price.

8. Only the difference in source supplier / manufacturer pricelist (actual cost, not percentage) may be adjusted and under no circumstances may the Tenderer/Supplier increase their profit margin.

9. The Tenderer/Supplier shall, when submitting claims for contract price adjustment, submit all of the documentation indicated below a minimum of two weeks prior to the effective date of the contract price adjustment:

    a) Copies of price lists upon which original tender prices were based (refer to clause 2, Table F.1(C).1 above) clearly indicating the item(s) according to C.4 Price Schedule.

    b) The new price list (*from the same Supplier / Manufacturer as originally tendered)* on the relevant manufacturer/suppliers' letterhead (with pamphlets, brochures and e-mail communication) clearly indicating the item(s) according to C.4 Price Schedule.

c) Detailed calculations indicating how the “adjusted” price was calculated. The calculations must be submitted in Excel, together with a signed, “PDF” version of the Excel spreadsheet. The example below – Table F.1(C).2, is what is required.

d) A covering letter on the Supplier’s letterhead requesting the CPA with the effective date of the claim.

10. The CCT will consider the request and either refer the request back for correction or additional information or approve the request.

11. The CCT will assess such pricelist-based CPA claims against market pricing and indices and other input pricing indicators and will only approve such claims that are confirmed to be reasonable and market related with reference to the source pricing information provided with the tender and with the CPA application

12. Approval of the CPA request including confirmation of the effective date, will be communicated to the Supplier in writing together with a list of the approved adjusted rates. The effective date will be as per clause 3 above.

13. The successful Tenderer/Supplier shall immediately upon notification of the commencement date of contract submit written application for approval of any adjusted unit prices for the Goods that may have been notified by the Supplier / Manufacturer of the Goods, together with the required supporting documentation. This application will be assessed in accordance with the process laid out above in order to determine approved contract prices at the commencement of the contract.

14. Failure to submit such application within two working weeks of commencement of contract shall result in the tendered unit prices being applied for initial orders placed following commencement of the contract.

15. In the event of a Supplier changing their Supplier / Manufacturer during the tenure of the contract, no request for price variations will be considered unless the Supplier has obtained prior approval from the City for the change of Supplier / Manufacturer. Such approval shall include technical approval by the Engineer of the goods supplied by the replacement Supplier / Manufacturer. Technical approval by the Engineer shall be a prerequisite for any change of Supplier / Manufacturer.

Table F.1(C).2 – Pro Forma Table for Adjustments in price where the Supplier is not the Manufacturer)

C.4 Price Schedule Item No.	Original Tender Price	Previous and New Price List Information					New Contract Price (Excl. VAT)
		Manufacturer/ Supplier	Material no.	Price as per previous Manufacturer/ Supplier Price List (Excl. Vat) Price List Date:_____	Price as per new Supplier/ Manufacturer Price List (Excl. Vat) Price List Date:_____	Difference between the previous and new manufacturer Price list (C)-(B)	
	(A)			(B)	(C)	(D)	(A)+(D)

**When submitting the first request for price adjustment, use the tender price as per C.4 Price Schedule.*

F.1 (D) LOCAL SOUTH AFRICAN CONTENT - STATS SA CONSUMER PRICE INDEX

NOT APPLICABLE

F.1. (E) LOCAL SOUTH AFRICAN CONTENT – SECTORIAL DETERMINATION

NOT APPLICABLE

F.1. (F) GOODS AND/OR COMPONENTS IMPORTED FROM OUTSIDE OF SOUTH AFRICA RATE OF EXCHANGE PRICE VARIATIONS

1. Subject to the above, when tendered prices of certain items in C.4 Price Schedule are subject to adjustment for changes in the cost of goods and/or components imported from outside of South Africa, the Tenderer must (as part of the bid submission) provide a list of such items and other information as required in Table F.1 (F).2 below and include it in the bid submission.

2. Only tenderers who are the direct importer of the goods may claim rate of exchange price variations.

Table F.1 (F).1: Information required for prices subject to Rate of Exchange adjustments

Exchange Rate on which tender is based:	_____1 : Rand _____
Exchange Rate on which tender is based: (if more than one currency)	_____1 : Rand _____
Exchange Rate on which tender is based: (if more than one currency)	_____1 : Rand _____
Name of Bank	
Date of quoted rate of exchange	
Documentation relevant to calculation of adjustments based on Rate of Exchange (Mark with “x”)	
Bill of Lading	
Waybill	
Customs invoice	
Other: _____	

7 TABLE F.1 (F).2: Price Basis for Imported Resources

C.4 Price Schedule Detail		**Rand Value Calculation for Foreign Content (FOB)**			**Customs Surcharge**		**Customs Duty**			**Rand Value for South African Content (FOR)**	Total Tender Price in Rand of (C) + (D) + (E) + (F) included in Price Schedule C.4
C.4 Price Schedule Item No.	Description of Resources	Value in Foreign Currency denomination (A)	Rate of Exchange as at Base Date* (B)	Value in Rand for Foreign currency content (A) x (B) (C)	%	Rand (D)	%	Rand (E)	Customs Duty Tariff Reference	Value in Rand for South African Content (F)	 (G)

** Base Date: 7 (seven) calendar days before tender closing.*

3. Any items/resources not inserted in Table F.1 (F).2 above, are deemed to be manufactured / supplied in South Africa and is not subject to adjustment in terms of variation in rate of exchange.

4. The price adjustment for variations in the cost of plant and materials imported from outside of South Africa shall be based on the information contained on the schedule titled “Price Basis for Imported Resources” (Table F.1 (F).2). The Rand value of goods and components comprising entirely or partly imported content that is inserted on the Table F.1(F).2 titled “Price Basis for Imported Resources” (column (G)) shall be the rate tendered in the Pricing Schedule C.4, and shall be the value in foreign currency (column (A)) converted to South African Rand (column (C)) by using the closing spot selling rate on the Base Date (seven calendar days before tender closing date) rounded to the second decimal place (column (B)), to which shall be added any Customs Surcharge and Customs Duty applicable at that date (columns (D) and (E)) and any South African manufactured or added content (column (F)). Any mark-up by the Tenderer or other costs not detailed above shall be entirely contained within the South African Content (Column (F)).

5. Column a of Table F.1 (F).2 shall detail the actual quotation for the imported Goods or components, and shall be substantiated by the original source quotation for such Goods or components. (Source quotation from foreign supplier/manufacturer, see Schedule F.1 (G), Table F.1 (G).1 below). No Supplier mark-up on the foreign currency value of such imported Goods or components is permissible. All Supplier mark-up shall be included in the South African content, Column F of Table F.1 (F).2 above.

6. Based on the evidence provided in Clause 5 above, the value in Rand inserted in column (C) on the schedule titled “Price Basis for Imported Resources” shall be recalculated using the forward cover rate obtained, and any increase or decrease in the Rand value defined in this clause shall be adjusted accordingly, subject to Clause 7 below.

7. The adjustments shall be calculated upon the value in foreign currency in the Supplier’s forward cover contract, provided that, should this value exceed the value in foreign currency inserted in column (A) of on the schedule titled “Price Basis for Imported Resources”, then the value in column (A) shall be used (or any adjusted value approved in accordance with Schedule F.1 (G) below).

8. Any increase or decrease in the Rand value between the amounts of Customs Surcharge and Customs Duty inserted in on the schedule titled “Price Basis for Imported Resources” and those amounts actually paid to the Customs and Excise Authorities, which are due to changes in the percentage rates applicable or to the foreign exchange rate used by the authorities, shall be adjusted accordingly.

9. The Tenderer shall state the Customs Duty Tariff Reference applicable to each item and the Supplier shall advise the CCT’s Agent of any changes which occur.

10. Suppliers shall take out Forward Cover covering the foreign exchange component of the cost of any imported portion of the Goods ordered on each purchase order issued by the Employer.

11. The process to be followed by Suppliers for claims for Rate of Exchange Variations shall be as follows:

    a) The Supplier shall within seven working days from the date of receipt of the purchase order arrange for cover or recovering forward by way of a contract with a bank which is an authorised foreign exchange dealer, the foreign exchange component of the cost of any imported goods and components inserted by the Tenderer on the scheduled titled “Price Basis for Imported Resources” (Table F.1 (F).2), and submit such Forward Cover quotation to the City for approval.

    b) Upon receipt of the quotation for Forward Cover from the bank, the Supplier must forward the quote ideally, within 15 minutes of receiving it from their banker to the CCT: CPA.Request@capetown.gov.za and Contract Manager. This is to ensure that the time difference from generation of the quotation for Forward Cover to finalising the Forward Cover with the Bank, is kept to a minimum due to the change in the exchange rate throughout the day.

    c) The Contract Manager will forward the quotation to the CCT Treasury Department immediately for their consideration and approval. The cut-off time for receipt of quotations for Forward Cover will be 14h00. It must be noted that if this deadline will not be achieved, it is recommended that the quotation process be undertaken on the following day which should fall within the 7 days of receipt of the purchase order.

    d) Only once the Forward Cover quotation rate has been approved by CCT Treasury Department, may the Supplier finalise the Forward Cover contract with their bank at the rate approved by the CCT

Treasury Department for that Purchase Order and forward a copy of the contract to the CCT via email: CPA.Request@capetown.gov.za and Contract Manager.

e) The Forward Cover quotation envisaged above shall have the CCT purchase order number and a Forward Cover Contract (FCC) Value Date that is directly based upon the required delivery date for the imported Goods or components necessary in order to meet the Contract Delivery Period. Future FCC Value Dates beyond the Contract Delivery Period shall not be acceptable.

12. On delivery of the goods to the City the Supplier shall submit the following documentation to the CCT via email: CPA.Request@capetown.gov.za and Contract Manager:

    a) The Bill of Lading/Waybill/Customs Invoice (clearly indicating the items as identified on the purchase order).
    b) Calculations detailing the difference in the rate of exchange at the time of entry and the date of tender. These shall be submitted on a covering letter.
    c) The invoice / credit note for the Rate of Exchange adjustment applicable to the specific order.

13. In exceptional circumstances, and subject to the Employer's explicit approval, Rate of Exchange variations on Goods or components that are imported in bulk in advance in fulfilment of the contract requirements or to create buffer stocks, but not specifically in response to specific purchase orders placed by the Employer in accordance with the contract, shall be based upon whichever of the following two methodologies is more advantageous to the Employer:

    a) Methodology 1: A spot quotation for the Forward Cover Contract rate for the imported portion of the Goods, based upon the FCC Value Date for the particular purchase order(s), as outlined in clause 11 above.

    b) Methodology 2: The actual Rate of Exchange cost variations incurred in fulfilment of the purchase order(s), fully substantiated by detailed Bills of Lading and Customs Invoice applicable to the particular Goods delivered. The applicable Rate of Exchange shall be the rate as defined on the Customs Invoice for the imported Goods.

    c) Determination of the more advantageous methodology shall be conducted and approved following delivery of the imported Goods or components to the Supplier but prior to delivery of the Goods to the Employer.

14. Approval of the process detailed in Clause 13 and sub-clauses above shall be on an order by order basis and application shall be submitted, with required supporting documents, immediately on receipt of the relevant purchase order(s).

F.1. (G) GOODS AND/OR COMPONENTS IMPORTED FROM OUTSIDE OF SOUTH AFRICA - MANUFACTURER/SUPPLIER PRICE/QUOTATION LIST

1. <u>Manufacturer's / Supplier's Pricelist / Quotation Based CPA – Imported Goods or Components:</u>

1.1 Tenderers with imported Goods or Components may claim contract price adjustment based on the overseas SUPPLIER'S / MANUFACTURER'S PRICE LISTS/ QUOTATION from the supplier or manufacturer of the tendered items.

1.2 In such cases the Tenderer is required to submit with his tender a copy of the original overseas Supplier / Manufacturer Pricelist / Quotation upon which his tender prices are based. Such pricelist / Quotation is required to be on the Letterhead of the Supplier / Manufacture, is to be dated, referenced and signed, and is to provide clear reference to the tender number or unambiguously indicate the relevant component.

1.3 The Tenderer is required to clearly reference each item quoted to the respective Tender Item Number indicated in C.4 Price Schedule by completing Table F.1 (G).1 below.

Table F.1 (G).1: Price Schedule information for Imported Goods or Components - Manufacturers/Suppliers Price List(s)/Quotation

	Price List Information		
Manufacturer/ Supplier Name	Price List/Quotation Date.	Price List/Quotation Reference Number	Pricelist applicable to Items as per C.4 Price Schedule

1.4 During the contract period, the Tenderer (now Supplier) must submit the request for price adjustment based on increases in pricelists of manufacturers/suppliers prior to the effective date of the increase in the pricelist.

1.5 The effective date of any price adjustment granted will be the first day of the month following the month during which the fully substantiated application for contract price adjustment is submitted or, by agreement between the Tenderer/Supplier and the CCT, a subsequent date on which the price adjustment will become effective.

1.6 In instances where the Supplier's price adjustment claimed is less than entitled, the lesser price will be accepted.

1.7 Only the difference in source supplier / manufacturer pricelist (actual cost, not percentage) may be adjusted and under no circumstances may the Tenderer/Supplier increase their profit margin.

1.8 The Tenderer/Supplier shall, when submitting claims for contract price adjustment, submit all of the documentation indicated below a minimum of two weeks prior to the effective date of the contract price adjustment:

a) Copies of price lists upon which original tender prices were based (refer to Clause 1.2, Table F.1 (G).1 above) clearly indicating the item(s) according to C.4 Price Schedule.

b) The new price list (*from the same Supplier / Manufacturer as originally tendered)* on the relevant manufacturer/suppliers letterhead (with pamphlets, brochures and e-mail communication) clearly indicating the item(s) according to C.4 Price Schedule.

c) Submit detailed calculations indicating how the “new” price is calculated. The calculations must be submitted in Excel, together with a signed, “PDF” version of the Excel spreadsheet. The example below – Table F.1(G).2, is what is required.

d) A covering letter on the Supplier’s letterhead requesting the CPA with the effective date of the claim.

1.9 The CCT will consider the request and either refer the request back for correction or additional information or approve the request.

1.10 The CCT will assess such pricelist-based CPA claims and will only approve such claims that are confirmed to be reasonable and market related with reference to the source pricing information provided with the tender and with the CPA application

1.11 Approval of the CPA request including confirmation of the effective date, will be communicated to the Supplier in writing. The effective date will be as per clause 1.3 above.

1.12 The successful Tenderer/Supplier shall immediately upon notification of the commencement date of contract submit written application for approval of any adjusted unit prices for the Goods that may have been notified by the Supplier / Manufacturer of the Goods, together with the required supporting documentation. This application will be assessed in accordance with the process laid out above in order to determine approved contract prices at the commencement of the contract.

1.13 Failure to submit such application within two working weeks of commencement of contract shall result in the tendered unit prices being applied for initial orders placed following commencement of the contract.

1.14 In the event of a Supplier changing their Supplier / Manufacturer during the tenure of the contract, no request for price variations will be considered unless the Supplier has obtained prior approval from the City for the change of Supplier / Manufacturer. Such approval shall include technical approval by the Engineer of the goods supplied by the replacement Supplier / Manufacturer. Technical approval by the Engineer shall be a prerequisite for any change of Supplier / Manufacturer.

Table F.1(G).2 – Pro Forma Table for Adjustments in price for Imported Goods or Components - Manufacturers/Suppliers Price List(s)/Quotation

C.4 Price Schedule Item No.	Original Tender Price	Previous and New Price List Information					New Contract Price (Excl. VAT)
		Manufacturer/ Supplier	Material no.	Price as per previous Manufacturer/ Supplier Price List (Excl. Vat) Price List Date:_____	Price as per new Supplier/ Manufacturer Price List (Excl. Vat) Price List Date:_____	Difference between the previous and new manufacturer Price list (C)-(B)	
	(A)			(B)	(C)	(D)	(A)+(D)

OR

2. **Supplier Price List Variations for Suppliers Supplying Goods Imported by Another Party**

2.1 The Tenderers (now Supplier) that are not the director importer of the manufactured goods/components, and intend to purchase the goods from another supplier who in turn is importing the goods, may apply for Supplier / Manufacturer Pricelist / Quotation based CPA imported by another Party.

2.2 In such cases the Tenderer is required to submit with his tender a copy of the original Supplier / Manufacturer Pricelist / Quotation upon which his tender prices are based. Such pricelist / Quotation is required to be on the Letterhead of the Supplier / Manufacture, is to be dated, referenced and signed, and is to provide clear reference to the tender number, exchange rate on which the quote is based and is required to clearly reference each item quoted to the respective Tender Item Number indicated in C.4 Price Schedule.

2.3 The tenderer shall further confirm the Manufacturer / supplier, Quotation date, exchange rate at date of quote and reference number and applicable tender Items by completing Table F.1(G).3 below.

Table F.1 (G).3: Price Schedule information for Imported Goods or Components, imported by Another Party Manufacturers/Suppliers Price List(s)/Quotation

	Price List Information			
Manufacturer/ Supplier Name	Price List/Quotation Date.	Price List/Quotation Reference Number	Exchange Rate on which quote is based	Pricelist applicable to Items as per C.4 Price Schedule
			_____1 : Rand _____	
			_____1 : Rand _____	
			_____1 : Rand _____	
			_____1 : Rand _____	

2.4 During the contract period, the Tenderer (now Supplier) must submit the request for price adjustment based on increases in pricelists of manufacturers/suppliers within seven calendar days of the date of the purchase order date.

2.5 The price adjustment claim will be fully substantiated, and the approval will be limited to the relevant Purchase Order.

2.6 In instances where the Supplier's price adjustment claimed is less than entitled, the lesser price will be accepted.

2.7 Only the difference in source supplier / manufacturer pricelist (actual cost, not percentage) may be adjusted and under no circumstances may the Tenderer/Supplier increase their profit margin.

2.8 The Tenderer/Supplier shall, when submitting claims for contract price adjustment, submit all the documentation indicated below a minimum of seven (7) days from date of purchase order:

a) Copies of price lists upon which original tender prices were based (refer to Clause 2.2, Table 2 above) clearly indicating the item(s) according to C.4 Price Schedule.

b) The new price list (*from the same Supplier / Manufacturer as originally tendered)* on the relevant manufacturer/suppliers' letterhead (with pamphlets, brochures and e-mail communication) clearly indicating the item(s) according to C.4 Price Schedule.

c) Submit detailed calculations indicating how the “new” price is calculated.

d) A covering letter on the Supplier’s letterhead requesting the CPA with the effective date of the claim.

2.9 The CCT will consider the request and either refer the request back for correction or additional information or approve the request.

2.10 The CCT will assess such pricelist-based CPA claims and will only approve such claims that are confirmed to be reasonable and market related with reference to the source pricing information provided with the tender and with the CPA application

2.11 Approval of the CPA request for the relevant Purchase Order (refer to clause 2.5 above), will be communicated to the Supplier in writing.

F.1. (H) GOODS AND/OR COMPONENTS IMPORTED FROM OUTSIDE OF SOUTH AFRICA - BASED ON FOREIGN INDICES

1. Adjustment for variation in labour and material Costs based on Indices in the country of manufacture.

1.1 If the prices for imported Goods and/or components are not fixed, the Supplier shall in their Tender specify the formula for calculating Contract Price Adjustments normally used in the country of manufacture and the indices and relative proportions of labour and material on which his Tender prices are based. The imported goods and or components shall be adjusted annually in accordance with clause 18.2 below.

1.2 The FOB adjustment in this CPA must be read with the values stipulated in the F.1 (F) (Column A) Schedule for Rate of Exchange.

2. Formula(e) for FOB price adjustment on goods and/or components ex-import:

Cost of goods and or components manufactured outside of South Africa and any foreign installation labour (FOB values in Table 2 titled "**Price Basis for Imported Resources**" (column (A))) will be fixed and firm except for variations in the rate of exchange and statutory obligations unless the following information is provided:

P = Po(0,1 + 0,9N/No)
Where
P = Adjusted Price
Po = Original Price
10% - Fixed
And:

No Foreign Published Index (similar to SEIFSA CPI/PPI) in country of Origin:
N DETAIL: _____

3. The FOB values in Table 2 titled "**Price Basis for Imported Resources**" (column (A)), shall remain fixed and firm for the first 12 calendar months from date of Commencement Date of Contract and Suppliers are not permitted to requests CPA during this period.

4. The FOB values will thereafter be subject to adjustment annually based on the average percentage of 12 months as published in the Foreign Published Index as follows:

4.1 From the start of the 13th month to the end of the 24th month calculated as follows:
   a) The base month for the price adjustment being three (3) calendar months prior to Commencement Date of Contract; and
   b) The end month shall be three (3) calendar months prior to the 12th month.

4.2 From the start of the 25th month to end of the 36th month calculated as follows:
   a) The base month for the price adjustment shall be three (3) calendar months prior to the 13th month; and
   b) The end month shall be three (3) calendar months prior to 24th month.

5. The average percentage increase in the published index will be calculated using the base month to the end month (both included) divided by the number of months. (12 months totalled/12 to achieve the average for the Foreign Published Index)

Schedule F.2: Certificate of Authority for Partnerships/ Joint Ventures/ Consortiums

This schedule is to be completed if the tender is submitted by a partnership/joint venture/ consortium.

1. We, the undersigned, are submitting this tender offer as a partnership/ joint venture/ consortium and hereby authorize Mr/Ms _____, of the authorised entity _____, acting in the capacity of Lead Partner, to sign all documents in connection with the tender offer and any contract resulting from it on the partnership/joint venture/ consortium's behalf.

2. By signing this schedule, the partners to the partnership/joint venture/ consortium:

   2.1 warrant that the tender submitted is in accordance with the main business and objectives of the partnership/joint venture/ consortium.

   2.2 agree that the CCT shall make all payments in terms of this Contract into the following bank account of the Lead Partner:

   Account Holder: _____
   Financial Institution: _____
   Branch Code: _____
   Account No.: _____

   2.3 agree that in the event that there is a change in the partnership/ joint venture/ consortium and/or should a dispute arise between the partnership/joint venture/ consortium partners, that the CCT shall continue to make any/all payments due and payable in terms of the Contract into the aforesaid bank account until such time as the CCT is presented with a Court Order or an original agreement (signed by each and every partner of the partnership/joint venture/ consortium) notifying the CCT of the details of the new bank account into which it is required to make payment.

   2.4 agree that they shall be jointly and severally liable to the CCT for the due and proper fulfilment by the successful tenderer/supplier of its obligations in terms of the Contract as well as any damages suffered by the CCT as a result of breach by the successful tenderer/supplier. The partnership/joint venture/ consortium partners hereby renounce the benefits of excursion and division.

SIGNED BY THE PARTNERS OF THE PARTNERSHIP/ JOINT VENTURE/ CONSORTIUM		
NAME OF FIRM	**ADDRESS**	**DULY AUTHORISED SIGNATORY**
Lead partner		Signature……... Name…… Designation……...
		Signature……... Name…… Designation……...
		Signature……... Name…… Designation……...
		Signature……... Name…… Designation……...

Note: A copy of the Joint Venture Agreement shall be appended to *List of Other Documents Attached by Tenderer Schedule.*

Schedule F.3: Declaration for Procurement above R10 million

If the value of the transaction is expected to exceed R10 million (VAT included) the tenderer shall complete the following questionnaire, attach the necessary documents and sign this schedule:

1. Are you by law required to prepare annual financial statements for auditing? (**Please mark with X**)

YES		NO	

If YES, submit audited annual financial statements:
(i) For the past three years, or
(ii) Since the date of establishment of the tenderer (if established during the past three years)
By attaching such audited financial statements to **List of Other Documents Attached by Tenderer Schedule.**

2. Do you have any outstanding undisputed commitments for municipal services towards the CCT or other municipality in respect of which payment is overdue for more than 30 (thirty) days? (**Please mark with X**)

YES		NO	

2.1 If NO, this serves to certify that the tenderer has no undisputed commitments for municipal services towards any municipality for more than three (3) (three) months in respect of which payment is overdue for more than 30 (thirty) days.
2.2 If YES, provide particulars:

3. Has any contract been awarded to you by an organ of state during the past five (5) years? (**Please mark with X**)

YES		NO	

If YES, insert particulars in the table below including particulars of any material non-compliance or dispute concerning the execution of such contract. Alternatively attach the particulars to **List of Other Documents Attached by Tenderer** schedule in the same format as the table below:

Organ of State	Contract Description	Contract Period	Non-compliance/dispute (if any)

4. Will any portion of the goods or services be sourced from outside the Republic, and if so, what portion and whether any portion of payment from the CCT is expected to be transferred out of the Republic? (**Please mark with X**)

YES		NO	

If YES, furnish particulars below

The tenderer hereby certifies that the information set out in this schedule and/or attached hereto is true and correct, and acknowledges that failure to properly and truthfully complete this schedule may result in steps being taken against the tenderer, the tender being disqualified, and/or (in the event that the tenderer is successful) the cancellation of the contract, restriction of the tenderer or the exercise by the CCT of any other remedies available to it.

_____ _____

Signature
Print name: Date
On behalf of the tenderer (duly authorised)

Schedule F.4: Preference Points Claim Form In Terms Of the Preferential Procurement Regulations 2022

1. GENERAL CONDITIONS

1.1 The following preference point systems are applicable to invitations to tender:

- The 90/10 system for requirements with a Rand value above R50 000 000 (all applicable taxes included).

1.2 **To be completed by the organ of state**

The applicable preference point system for this tender is the 90/10 preference point system.

1.3 Points for this tender (even in the case of a tender for income-generating contracts) shall be awarded for:

(a) Price; and
(b) Specific Goals.

1.4 **To be completed by the organ of state:**

The maximum points for this tender are allocated as follows:

	POINTS
PRICE	90
SPECIFIC GOALS	10
Total points for Price and SPECIFIC GOALS	**100**

1.5 Failure on the part of a tenderer to submit proof or documentation required in terms of this tender to claim points for specific goals with the tender, will be interpreted to mean that preference points for specific goals are not claimed.

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

2. DEFINITIONS

The following definitions shall apply to this schedule:

(a) "tender" means a written offer in the form determined by an organ of state in response to an invitation to provide goods or services through price quotations, competitive tendering process or any other method envisaged in legislation.
(b) "price" means an amount of money tendered for goods or services and includes all applicable taxes less all unconditional discounts.
(c) "rand value" means the total estimated value of a contract in Rand, calculated at the time of bid invitation, and includes all applicable taxes.
(d) "tender for income-generating contracts" means a written offer in the form determined by an organ of state in response to an invitation for the origination of income-generating contracts through any method envisaged in legislation that will result in a legal agreement between the organ of state and a third party that produces revenue for the organ of state, and includes, but is not limited to, leasing and disposal of assets and concession contracts, excluding direct sales and disposal of assets through public auctions; and
(e) "The Act" means the Preferential Procurement Policy Framework Act, 2000 (Act No. 5 of 2000).

3. FORMULAE FOR PROCUREMENT OF GOODS AND SERVICES

POINTS AWARDED FOR PRICE

THE 90/10 PREFERENCE POINT SYSTEMS

A maximum of 80 or 90 points is allocated for price on the following basis:

90/10

Where

Ps	=	Points scored for price of tender under consideration
Pt	=	Price of tender under consideration
Pmin	=	Price of lowest acceptable tender

4. POINTS AWARDED FOR SPECIFIC GOALS

4.1 In terms of Regulation 4(2); 5(2); 6(2) and 7(2) of the Preferential Procurement Regulations, preference points must be awarded for specific goals stated in the tender. For the purposes of this tender the tenderer will be allocated points based on the goals stated in table 1 below as may be supported by proof/ documentation stated in the conditions of this tender:

4.2 In cases where organs of state intend to use Regulation 3(2) of the Regulations, which states that, if it is unclear whether the 90/10 preference point system applies, an organ of state must, in the tender documents, stipulate in the case of—

(a) an invitation for tender for income-generating contracts, that either the 80/20 or 90/10 preference point system will apply and that the highest acceptable tender will be used to determine the applicable preference point system: or

(b) any other invitation for tender, that either the 80/20 or 90/10 preference point system will apply and that the lowest acceptable tender will be used to determine the applicable preference point system,

Then the organ of state must indicate the points allocated for specific goals for both the 90/10 and 80/20 preference point system.

Table 1: Specific goals for the tender and points claimed are indicated per the table below.

(Note to organs of state: Where either the 90/10 or 80/20 preference point system is applicable, corresponding points must also be indicated as such.
Note to tenderers: The tenderer must indicate how they claim points for each preference point system.)

The specific goals allocated points in terms of this tender	**To be Completed by the Organ of State**	**To be Completed by the Tenderer**
	Number of points Allocated (90/10 system)	Number of points claimed (90/10 system)
Gender	3	
Race	3	
Disability	1	
Promotion of Micro and Small Enterprises	3	

DECLARATION WITH REGARD TO COMPANY/FIRM

4.3 Name of company/firm…….

4.4 Company registration number: ……...

4.5 TYPE OF COMPANY/ FIRM

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

☐ Non-Profit Company
☐ State Owned Company
[Tick applicable box]

4.6 I, the undersigned, who is duly authorised to do so on behalf of the company/firm, certify that the points claimed, based on the specific goals as advised in the tender, qualifies the company/ firm for the preference(s) shown and I 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 4.1 and 4.2, the Supplier may be required to furnish documentary proof to the satisfaction of the organ of state that the claims are correct;
iv) If the specific goals have been claimed or obtained on a fraudulent basis or any of the conditions of contract have not been fulfilled, the organ of state may, in addition to any other remedy it may have –
    (a) disqualify the person from the tendering 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 tenderer or Supplier, its shareholders and directors, or only the shareholders and directors who acted on a fraudulent basis, be restricted 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, if deemed necessary.

Signature of Tenderer	*Date*	*Name and Surname*	*Address*

For official use.		
SIGNATURE OF CCT OFFICIALS AT TENDER OPENING		
1.	2.	3.

Schedule F.5: Declaration of Interest – State Employees (MBD 4 amended)

1. No bid will be accepted from:
   1.1 persons in the service of the state[1], or
   1.2 if the person is not a natural person, of which any director, manager or principal shareholder or stakeholder is in the service of the state, or
   1.3 from persons, or entities of which any director, manager or principal shareholder or stakeholder, has been in the service of the City of Cape Town (CCT) during the previous twelve (12) months, or
   1.4 from an entity who has employed a former CCT employee who was at a level of T14 of higher at the time of leaving the CCT's employ and involved in any of the CCT's bid committees for the bid submitted, if:
      1.4.1 the CCT employee left the CCT's employment voluntarily, during the previous twelve (12) months.
   1.5 a person who was a CCT employee, or an entity that employs a CCT employee, if
      1.5.1 the CCT employee left the CCT's employment whilst under investigation for alleged misconduct, or
      1.5.2 was facing disciplinary action or potential disciplinary action by the CCT, or
      1.5.3 Was involved in a dispute against the CCT during the previous thirty-six (36) months.

2. Any person, having a kinship with persons in the service of the state, including a blood relationship, may make an offer or offers in terms of this invitation to bid. In view of possible allegations of favouritism, should the resulting bid, or part thereof, be awarded to persons connected with or related to persons in service of the state, it is required that the tenderer or their authorised representative declare their position in relation to the evaluating/adjudicating authority.

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

   3.1 Full Name of tenderer or his or her representative: _____

   3.2 Identity Number: _____

   3.3 Position occupied in the Company (director, trustee, shareholder[2]): _____

   3.4 Company or Close Corporation Registration Number: _____

   3.5 Tax Reference Number: _____

   3.6 VAT Registration Number: _____

   3.7 The names of all directors / trustees / shareholders members, their individual identity numbers and state employee numbers must be indicated in paragraph 4 below.

   3.8 Are you presently in the service of the state? **YES / NO**
      3.8.1 If yes, furnish particulars: _____

   3.9 Have you been in the service of the state for the past twelve months? **YES / NO**
      3.9.1 If yes, furnish particulars: _____

   3.10 Do you have any relationship (family, friend, other) with persons in the service of the state and who may be involved with the evaluation and or adjudication of this bid? **YES / NO**
      3.10.1 If yes, furnish particulars: _____

   3.11 Are you, aware of any relationship (family, friend, other) between any other tenderer and any persons in the service of the state who may be involved with the evaluation and or adjudication of this bid? **YES / NO**
      3.11.1 If yes, furnish particulars: _____

   3.12 Are any of the company's directors, trustees, managers, principal shareholders or stakeholders in service of the state? **YES / NO**
      3.12.1 If yes, furnish particulars:
      _____

3.13 Are any spouse, child or parent of the company's directors, trustees, managers, principal shareholders or stakeholders in service of the state? **YES / NO**
3.13.1 If yes, furnish particulars:
_____

3.14 Do you or any of the directors, trustees, managers, principle shareholders, or stakeholders of this company have any interest in any other related companies or business whether or not they are bidding for this contract? **YES / NO**
3.14.1 If yes, furnish particulars: _____

3.15 Have you, or any of the directors, trustees, managers, principle shareholders, or stakeholders of this company been in the service of the CCT in the past twelve months? **YES / NO**
3.15.1 If yes, furnish particulars: _____

3.16 Do you have any employees who was in the service of the CCT at a level of T14 or higher at the time they left the employ of the CCT, and who was involved in any of the CCT's bid committees for this bid? **YES / NO**
3.16.1 If yes, furnish particulars: _____

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

Full Name	Identity Number	State Employee Number

If the above table does not sufficient to provide the details of all directors / trustees / shareholders, please append full details to the tender submission.

The tenderer hereby certifies that the information set out in this schedule and/or attached hereto is true and correct, and acknowledges that failure to properly and truthfully complete this schedule may result in steps being taken against the tenderer, the tender being disqualified, and/or (in the event that the tenderer is successful) the cancellation of the contract, restriction of the tenderer or the exercise by the CCT of any other remedies available to it.

_____ _____
Signature Date
Print name:
On behalf of the tenderer (duly authorised)

[1]MSCM Regulations: "in the service of the state" means to be –
(a) a member of –
(i) any municipal council;
(ii) any provincial legislature; or
(iii) the national Assembly or the national Council of provinces;

(b) a member of the board of directors of any municipal entity;
(c) an official of any municipality or municipal entity;
(d) an employee of 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);
(e) an executive member of the accounting authority of any national or provincial public entity; or
(f) An employee of Parliament or a provincial legislature.

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

Schedule F.6: Conflict of Interest Declaration

1. The tenderer shall declare whether it has any conflict of interest in the transaction for which the tender is submitted. (**Please mark with X**)

YES		NO	

1.1 If yes, the tenderer is required to set out the particulars in the table below:

2. The tenderer shall declare whether it has directly or through a representative or intermediary promised, offered or granted:

2.1 Any inducement or reward to the CCT for or in connection with the award of this contract; or

2.2 Any reward, gift, favour or hospitality to any official or any other role player involved in the implementation of the supply chain management policy. (**Please mark with X**)

YES		NO	

If yes, the tenderer is required to set out the particulars in the table below:

Should the tenderer be aware of any corrupt or fraudulent transactions relating to the procurement process of the CCT, please contact the following:

The CCT's anti-corruption hotline at 0800 32 31 30 (toll free)

The tenderer hereby certifies that the information set out in this schedule and/or attached hereto is true and correct, and acknowledges that failure to properly and truthfully complete this schedule may result in steps being taken against the tenderer, the tender being disqualified, and/or (in the event that the tenderer is successful) the cancellation of the contract, restriction of the tenderer or the exercise by the CCT of any other remedies available to it.

_____ _____

Signature
Print name: Date
On behalf of the tenderer (duly authorised)

Schedule F.7: Declaration of Tenderer's Past Supply Chain Management Practices (MBD 8)

Where the entity tendering is a partnership/joint venture/consortium, each party to the partnership/joint venture/consortium must sign a declaration in terms of the Municipal Finance Management Act, Act 56 0f 2003, and attach it to this schedule.

1 The tender offer of any tenderer may be rejected if that tenderer or any of its directors/members have:

a) abused the municipality's / municipal entity's supply chain management system or committed any fraudulent conduct in relation to such system;
b) been convicted for fraud or corruption during the past five years;
c) willfully neglected, reneged on or failed to comply with any government, municipal or other public sector contract during the past five years; or
d) been listed in the Register for Tender Defaulters in terms of section 29 of the Prevention and Combating of Corrupt Activities Act (No 12 of 2004) or Database of Restricted Suppliers.

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

Item	Question	Yes	No
2.1	**Is the tenderer or any of its directors/members listed on the National Treasury's Database of Restricted Suppliers as companies or persons prohibited from doing business with the public sector?** (Companies or persons who are listed on this Database were informed in writing of this restriction by the Accounting Officer/Authority of the institution that imposed the restriction after the *audi alteram partem* rule was applied). **The Database of Restricted Suppliers now resides on the National Treasury's website (**www.treasury.gov.za**) and can be accessed by clicking on its link at the bottom of the home page.**	Yes ☐	No ☐
2.1.1	If so, furnish particulars:		
2.2	Is the tenderer or any of its directors/members listed on the Register for Tender Defaulters in terms of section 29 of the Prevention and Combating of Corrupt Activities Act (No 12 of 2004) or Database of Restricted Suppliers? **The Register for Tender Defaulters can be accessed on the National Treasury's website (www.treasury.gov.za) by clicking on its link at the bottom of the home page.**	Yes ☐	No ☐
2.2.1	If so, furnish particulars:		
2.3	Was the tenderer or any of its directors/members convicted by a court of law (including a court of law outside the Republic of South Africa) for fraud or corruption during the past five years?	Yes ☐	No ☐
2.3.1	If so, furnish particulars:		
Item	**Question**	**Yes**	**No**

2.4	Does the tenderer or any of its directors owe any municipal rates and taxes or municipal charges to the municipality / municipal entity, or to any other municipality / municipal entity, that is in arrears for more than three months?	Yes ☐	No ☐
2.4.1	If so, furnish particulars:		
2.5	Was any contract between the tenderer and the municipality / municipal entity or any other organ of state terminated during the past five years on account of failure to perform on or comply with the contract?	Yes ☐	No ☐
2.5.1	If so, furnish particulars:		

The tenderer hereby certifies that the information set out in this schedule and/or attached hereto is true and correct, and acknowledges that failure to properly and truthfully complete this schedule may result in steps being taken against the tenderer, the tender being disqualified, and/or (in the event that the tenderer is successful) the cancellation of the contract,, restriction of the tenderer or the exercise by the CCT of any other remedies available to it.

_____ _____

Signature
Print name: Date
On behalf of the tenderer (duly authorised)

Schedule F.8: Authorisation for the Deduction of Outstanding Amounts Owed to the CCT

To: THE CITY MANAGER, City of Cape Town

From: _____
(Name of tenderer)

RE: AUTHORISATION FOR THE DEDUCTION OF OUTSTANDING AMOUNTS OWED TO THE CCT

The tenderer:

a) hereby acknowledges that according to SCM Regulation 38(1)(d)(i) the City Manager may reject the tender of the tenderer if any municipal rates and taxes or municipal service charges owed by the tenderer (or any of its directors/members/partners) to the CCT, or to any other municipality or municipal entity, are in arrears for more than 3 (three) months; and
b) therefore hereby agrees and authorises the CCT to deduct the full amount outstanding by the Tenderer or any of its directors/members/partners from any payment due to the tenderer; and
c) confirms the information as set out in the tables below for the purpose of giving effect to b) above;

Physical Business address(es) of the tenderer	Municipal Account number(s)	Inside the CCT municipal boundary (Yes/No)

If there is not enough space for all the names, please attach the information to **List of other documents attached by tenderer** schedule in the same format:

Name of Director / Member / Partner	Identity Number	Physical residential address of Director / Member / Partner	Municipal Account number(s)	Inside the CCT municipal boundary (Yes/No)

The tenderer hereby certifies that the information set out in this schedule and/or attached hereto is true and correct, and acknowledges that failure to properly and truthfully complete this schedule may result in steps being taken against the tenderer, the tender being disqualified, and/or (in the event that the tenderer is successful) the cancellation of the contract, restriction of the tenderer or the exercise by the CCT of any other remedies available to it.

_____ _____
Signature
Print name: Date
On behalf of the tenderer (duly authorised)

Schedule F.9: Certificate of Independent Tender Determination

I, the undersigned, in submitting this tender number **DP-8213/2023/24** and tender description: **TENDER DESCRIPTION: MANUFACTURE, TESTING, SUPPLY AND DELIVERY OF DISTRIBUTION TRANSFORMERS, POLE MOUNTED TRANSFORMERS, MINIATURE SUBSTATIONS AND ACCESSORIES** in response to the tender invitation made by THE CCT, do hereby make the following statements, which I certify to be true and complete in every respect:

I certify, on behalf of: _____ (Name of tenderer) that:

1. I have read and I understand the contents of this Certificate;

2. I understand that this tender will be disqualified if this Certificate is found not to be true and complete in every respect;

3. I am authorised by the tenderer to sign this Certificate, and to submit this tender, on behalf of the tenderer;

4. Each person whose signature appears on this tender has been authorised by the tenderer to determine the terms of, and to sign, the tender on behalf of the tenderer;

5. For the purposes of this Certificate and this tender, I understand that the word 'competitor' shall include any individual or organisation other than the tenderer, whether or not affiliated with the tenderer, who:
   (a) has been requested to submit a tender in response to this tender invitation;
   (b) could potentially submit a tender in response to this tender invitation, based on their qualifications, abilities or experience; and
   (c) provides the same goods and services as the tenderer and/or is in the same line of business as the tenderer.

6. The tenderer has arrived at this tender independently from and without consultation, communication, agreement or arrangement with any competitor. However, communication between partners in a joint venture or consortium[1] will not be construed as collusive price quoting.

7. In particular, without limiting the generality of paragraphs 5 and 6 above, there has been no consultation, communication, agreement or arrangement with any competitor regarding:
   (a) prices;
   (b) geographical area where product or service will be rendered (market allocation);
   (c) methods, factors or formulas used to calculate prices;
   (d) the intention or decision to submit or not to submit a tender;
   (e) the submission of a tender which does not meet the specifications and conditions of the tender; or
   (f) tendering with the intention not to win the contract.

8. In addition, there have been no consultations, communications, agreements or arrangements with any competitor regarding the quality, quantity, specifications and conditions or delivery particulars of the products or services to which this tender invitation relates.

9. The terms of this tender have not been and will not be disclosed by the tenderer, directly or indirectly, to any competitor, prior to the date and time of the official tender opening or of the awarding of the contract.

10. I am aware that, in addition and without prejudice to any other remedy provided to combat any restrictive practices related to tenders and contracts, tenders that are suspicious will be reported to the Competition Commission for investigation and possible imposition of administrative penalties in terms of section 59 of the Competition Act, Act 89 of 1998, and/o/r may be reported to the National Prosecuting Authority (NPA) for criminal investigation, and/or may be restricted from conducting business with the public sector for a period not exceeding 10 (ten) years in terms of the Prevention and Combating of Corrupt Activities Act, Act 12 of 2004, or any other applicable legislation.

_____ _____

Signature
Print name: Date
On behalf of the tenderer (duly authorised)

([1] Consortium: Joint venture or Consortium means an association of persons for the purpose of combining their expertise, property, capital, efforts, skill and knowledge in an activity for the execution of a contract.)

Schedule F.10: Proposed Deviations And Qualifications By Tenderer

The Tenderer should record any **proposed** deviations or qualifications they may wish to make to the tender documents in this Returnable Schedule. Alternatively, a tenderer may state such proposed deviations and qualifications in a covering letter attached to his tender and reference such letter in this schedule. Any proposed deviations or qualifications contained in a covering letter which is not referenced in this schedule will not be considered.

The Tenderer's attention is drawn to **clauses 2.2.11.1** and **2.3.7.2** of the Standard Conditions of Tender referenced in the Tender Data regarding the CCT's handling of material deviations and qualifications.

If no deviations or qualifications are proposed, the schedule hereunder is to be marked **NIL** and signed by the Tenderer.

PAGE	CLAUSE OR ITEM	PROPOSED DEVIATION OR QUALIFICATION

List relevant documentation attached in Schedule F.10 below.

_____ _____

Signature
Print name: Date
On behalf of the tenderer (duly authorised)

Schedule F.11: List of Other Documents Attached By Tenderer

The tenderer has attached to this schedule, the following additional documentation:		
	Date of Document	**Title of Document or Description (refer to clauses / schedules of this tender document where applicable)**
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		
11.		
12.		
13.		
14.		
15.		
16.		
17.		

Attach additional pages if more space is required.

_____ _____

Signature
Print name: Date
On behalf of the tenderer (duly authorised)

Schedule F.12: Record of Addenda to Tender Documents

We confirm that the following communications received from the CCT before the submission of this tender offer, amending the tender documents, have been taken into account in this tender offer:

	Date	Title or Details
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		

Attach additional pages if more space is required.

_____ _____

Signature
Print name: Date
On behalf of the tenderer (duly authorised)

Schedule F.13: Information to Be Provided With the Tender

The following information shall be provided with the Tender:

a) Schedule F.13 A: Schedule of Manufacturer Information
b) Schedule F.13 B: Schedule of Technical Data
c) Schedule F.13 C:Details of Quality System and Manufacturing and After Sales Facilities in South Africa
d) Schedule F.13 D:Schedule of Manufacturer's Experience
e) Schedule F.13 E:Departures from the Requirements of the Specification
f) With reference to Section 9 of the specification (PARTICULARS) and section 13.2 Type Tests the following are to be attached to the tender document as annexures:

1) SABS Mark permit certificate or approved alternative authority certificate eg. SATAS;
2) Referenced technical datasheets for the items offered;
3) Manufacturer's (factory) ISO Certification 9001 or Certified Quality Plan;
4) Company Organogram/s;
5) Letter of Authorisation from the OEM/Supplier where required as per clause 9.4 of the specification;
6) Schedule of Referenced Type Tests certificates as applicable;
7) Manufacturers Price List upon which the tender price is based (on suppliers letter head, addressed to tenderer, referenced, dated and signed)
8) The various technical details and data required by the Technical Data Sheets and information required in the Returnable Schedules.
9) The drawings indicated in Section 9.1 of the Specification(s).
10) The RMU Installation, Operating and Maintenance Manual indicated in Section 9.2 of the Specification(s) .
11) The Equipment, Tenderer and Manufacturer details as laid out in Section 10 of the Specification(s).
12) The Schedule of Type Tests completed and the cover sheets of type tests and special tests as laid out in Section 14 of the Specification(s).
13) The clear justification of invoking by the Tenderer of the SANS 60076-5 Similar Transformers provision with respect to any Items that are proposed to be covered by short circuit withstand type test conducted on a different Reference Transformer.
14) The specific design aspects to cater for network invertor harmonics.
15) The detailed Design Sheets for all Items offered that are not covered by a valid and acceptable short circuit withstand type test certificate.
16) The Supplier's Pricelists required in terms of the Tendered CPA details included in Schedule 8.
17) The quality assurance plan from the RMU manufacturer for safe recovery and disposal of SF6 gas on scrapping or end of life of the RMUs offered.
18) All other returnable information detailed in the Section 10 of the Specification even if not specifically repeated above.

_____ _____

Signature
Print name: Date
On behalf of the tenderer (duly authorised)

Schedule F.13 A: Manufacturer Information

(Information to be supplied with Tender)

Item No.	Description	Manufacturer	Place of Manufacture	Place of Testing and Inspection	Manufacturer's Accreditation		Model No / Designation of Equipment
					SANS/ISO 9001 Accreditation No	SANS/ISO 9001 Accreditation No	
1	Miniature Substations						
2	Miniature Substation Transformers						
3	Miniature Substation Ring main Units						
4	Pole Mounted Transformers						
5	Distribution Transformers						
6	PM Transformer outdoor MV Bushings						
7	Transformer Type C indoor MV bushings						
8	Transformer LV Palm Flag Type Bushings						
9	Minisub RMU cable live and phasing VDIS Modules						
10	Digital Temperaure measurement device with shunt trip and analog output						
11	Earth fault indication equipment						

Item No.	Description	Manufacturer	Place of Manufacture	Place of Testing and Inspection	Manufacturer's Accreditation		Model No / Designation of Equipment
					SANS/ISO 9001 Accreditation No	SANS/ISO 9001 Accreditation No	
12	LV Three Phase Power Digital Meter						
13	Bimetalic Busbars (CCAA or Al Alloy etc)						
14	LV Jumpers - Alternative Conductor (CCAA or Al Alloy etc)						
15	Insulating Oil						
16	Self-Powered Protection Relay						
17	Protection CT's						
18	Electronic MCCB (Main Circuit Breakers)						
19	Miniature Substation MV screened tails (XLPE or EPR)						
20	Miniature Substation MV screened seperable connectors (SSC)						

TENDERERS NAME_____ SIGNATURE_____

Schedule F.13 B: Technical Data - Pole Mounted Transformers

ITEM CATEGORY A: PARTICULARS OF POLE MOUNTED TRANSFORMERS (Information to be supplied with Tender)

			ITEM A1	ITEM A2	ITEM A3	ITEM A4	ITEM A5	ITEM A6	ITEM A7
1	Name of transformer manufacturer								
2	Derated Power Considering Effects of Harmonics	kVA	50	100	200	50	100	200	315
3	Actual Power Rating	kVA							
3.1.	Rated voltage (a) MV	V	11000	11000	11000	11500	11500	11500	11500
3.2.	(b) LV	V	420	420	420	420	420	420	420
4	Vector group		Dyn 7	Dyn 7	Dyn 7	Dyn 11	Dyn 11	Dyn 11	Dyn 11
5	Grade of cold rolled core steel								
6	Core steel loss at flux density for nominal voltage	W/kg							
7	Maximum flux density (peak) in iron at nominal voltage:								
7.1.	(a) Cores	Tesla							
7.2.	(b) Yokes	Tesla							
8	Maximum current density in windings at rated current:								
8.1.	(a) MV windings	A/mm²							
8.2.	(b) LV windings	A/mm²							
8.3.	*Required:* No Load +15%	W	126.5	218.5	368	126.5	218.5	368	517.5
	Offered:								
8.4.	*Required:*Load losses +15%	W	1012	1725	2990	1012	1725	2990	4140
	Offered:								

Schedule F.13 B: Technical Data – Pole Mounted Transformers

ITEM CATEGORY A: PARTICULARS OF POLE MOUNTED TRANSFORMERS (Cont'd) (Information to be supplied with Tender)

			ITEM A1	ITEM A2	ITEM A3	ITEM A4	ITEM A5	ITEM A6	ITEM A7
9	Efficiency at rated power, normal ratio and unity power factor	%							
10	Regulation at rated power as percentage of rated voltage:								
10.1.	(a) At unity power factor	%							
10.2.	(b) At 0,8 power factor lagging	%							
11	Rated impedance voltage	%							
12	Sound level	dB							
13	Impulse withstand voltage (peak)	kV	95	95	95	95	95	95	95
14	Material and thickness of transformer tank and radiators:								
14.1.	(a1) Main tank sides and cover material								
14.2.	(a2) Main tank sides and cover thickness	mm							
14.3.	(b1) Tank bottom material								
14.4.	(b2) Tank bottom thickness	mm							
14.5.	(c1) Radiator material								
14.6.	(c2) Radiator thickness	mm							
14.7.	(d1) LV compartment walls and door material								
14.8.	(d2) LV compartment walls and door thickness	mm							

Schedule F.13 B: Technical Data – Pole Mounted Transformers

ITEM CATEGORY A: PARTICULARS OF POLE MOUNTED TRANSFORMERS (Cont'd) (Information to be supplied with Tender)

				ITEM A1	ITEM A2	ITEM A3	ITEM A4	ITEM A5	ITEM A6	ITEM A7
14.9.	(d3)	LV compartment cover material								
14.10.	(d4)	LV compartment cover thickness	mm							
14.11.	(d5)	LV compartment gland plate material								
14.12.	(d6)	LV compartment gland plate thickness	mm							
14.13.	(d7)	Lock protector box material								
14.14.	(d8)	Lock protector box thickness	mm							
15	Overall dimensions of transformers:									
15.1.	(a)	Breadth	mm							
15.2.	(b)	Length	mm							
15.3.	(c)	Height	mm							
16	Mass of core without windings		kg							
17	MV winding type and material (Cu / Al - Preferred)									
18	Mass of conductor in MV windings		kg							
19	LV winding type and material (Cu / Al - Preferred)									
20	Mass of conductor in LV windings		kg							
21	Total mass of complete transformer including oil		kg							

Schedule F.13 B: Technical Data – Pole Mounted Transformers

ITEM CATEGORY A: PARTICULARS OF POLE MOUNTED TRANSFORMERS (Cont'd) (Information to be supplied with Tender)

		ITEM A1	ITEM A2	ITEM A3	ITEM A4	ITEM A5	ITEM A6	ITEM A7
22	Oil:							
22.1.	Total quantity required ℓ							
22.2.	Oil to SANS 555-2 and H_20 < 10 mg/kg	YES / NO*	YES / NO*	YES / NO*	YES / NO*	YES / NO*	YES / NO*	YES / NO*
22.3.	Oil PCB free (< 10 ppm)	YES / NO*	YES / NO*	YES / NO*	YES / NO*	YES / NO*	YES / NO*	YES / NO*
23	MV bushings:							
23.1.	Type							
23.2.	Manufacturer							
23.3.	Model No.							
24	LV bushings:							
24.1.	Type							
24.2.	Manufacturer							
24.3.	Model No.							
25	Bimetalic LV busbars:							
25.1.	(a) Cross sectional area mm²							
25.2.	(b) Maximum current density A/mm²							
25.3.	Make and type of terminal blocks							
26	Short Circuit Withstand Certification:							
26.1.	Valid Short Circuit Withstand certificate referenced and provided?	YES / NO*	YES / NO*	YES / NO*	YES / NO*	YES / NO*	YES / NO*	YES / NO*
26.2.	SANS 60076-5 Similar Transformer motivation provided?	YES / N/A*	YES / N/A*	YES / N/A*	YES / N/A*	YES / N/A*	YES / N/A*	YES / N/A*
26.3.	Transformer Design Sheet provided (if no valid SC Withstand Certificate)?	YES / N/A*	YES / N/A*	YES / N/A*	YES / N/A*	YES / N/A*	YES / N/A*	YES / N/A*

Schedule F.13 B: Technical Data - Distribution Transformers

ITEM CATEGORY B: PARTICULARS OF DISTRIBUTION TRANSFORMERS (Information to be supplied with Tender)

		ITEM B1	ITEM B2	ITEM B3	ITEM B4	ITEM B5	ITEM B6	ITEM B7	ITEM B8	ITEM B9	ITEM B10
1	Name of transformer manufacturer										
2	Derated Power Considering Effects of Harmonics kVA	200	315	500	800	1000	200	315	500	800	1000
3	Actual Power Rating kVA										
3.1.	Rated voltage: (a) MV V	11660	11660	11660	11660	11660	11500	11500	11500	11500	11500
3.2.	(b) LV V	420	420	420	420	420	420	420	420	420	420
4	Vector group	Dyn7	Dyn7	Dyn7	Dyn7	Dyn7	Dyn11	Dyn11	Dyn11	Dyn11	Dyn11
5	Grade of cold rolled core steel										
6	Core steel loss at flux density for nominal voltage W/kg										
7	Maximum flux density (peak) in iron at nominal voltage:										
7.1.	(a) Cores Tesla										
7.2.	(b) Yokes Tesla										
8	Maximum current density in windings at rated current:										
8.1.	(a) MV windings A/mm²										
8.2.	(b) LV windings A/mm²										
8.3.	Required: No Load (SANS780) +15% W	368	517.5	724.5	1035	1230.5	368	517.5	724.5	1035	1230.5
	(a) Offered No Load W										
8.4.	Required: Load losses (SANS780) +15% W	2990	4140	5980	8625	10235	2990	4140	5980	8625	10235
	(a) Offered Load losses W										
9	Efficiency at rated power, normal ratio and unity power factor %										

Schedule F.13 B: Technical Data - Distribution Transformers

ITEM CATEGORY B: PARTICULARS OF DISTRIBUTION TRANSFORMERS (Cont'd) (Information to be supplied with Tender)

			ITEM B1	ITEM B2	ITEM B3	ITEM B4	ITEM B5	ITEM B6	ITEM B7	ITEM B8	ITEM B9	ITEM B10
10	Regulation at rated power as percentage of rated voltage:											
10.1.	(a) At unity power factor	%										
10.2.	(b) At 0,8 power factor lagging	%										
11	Rated impedance voltage	%										
12	Sound level	dB										
13	Impulse withstand voltage (peak)	kV	95	95	95	95	95	95	95	95	95	95
14	Material and thickness of transformer tank, conservator and radiators:											
14.1.	(a1) Main tank sides and cover material											
14.2.	(a2) Main tank sides and cover thickness	mm										
14.3.	(b1) Tank bottom material											
14.4.	(b2) Tank bottom thickness	mm										
14.5.	(c1) Radiator material											
14.6.	(c2) Radiator thickness	mm										
14.7.	(d1) LV compartment walls and door material											
14.8.	(d2) LV compartment walls and door thickness	mm										
14.9.	(d3) LV compartment cover material											
14.10.	(d4) LV compartment cover thickness	mm										
14.11.	(d5) LV compartment gland plate material											

Schedule F.13 B: Technical Data - Distribution Transformers

ITEM CATEGORY B: PARTICULARS OF DISTRIBUTION TRANSFORMERS (Cont'd) (Information to be supplied with Tender)

			ITEM B1	ITEM B2	ITEM B3	ITEM B4	ITEM B5	ITEM B6	ITEM B7	ITEM B8	ITEM B9	ITEM B10
14.12.	(d6) LV compartment gland plate thickness	mm										
14.13.	(d7) Lock protector box material											
14.14.	(d8) Lock protector box thickness	mm										
14.15.	(e1) MV cable box material											
14.16.	(e2) MV cable box thickness	mm										
14.17.	(f1) Longitudinal skid underbase material											
14.18.	(f2) Longitudinal skid underbase thickness	mm										
15	Overall dimensions of transformers:											
15.1.	(a) Breadth	mm										
15.2.	(b) Length	mm										
15.3.	(c) Height	mm										
16	Mass of core without windings	kg										
17	MV winding type and material (Cu / Al)											
18	Mass of conductor in MV windings	kg										
19	LV winding type and material (Cu / Al)											
20	Mass of conductor in LV windings	kg										
21	Total mass of complete transformer including oil	kg										

Schedule F.13 B: Technical Data - Distribution Transformers

ITEM CATEGORY B: PARTICULARS OF DISTRIBUTION TRANSFORMERS (Cont'd) (Information to be supplied with Tender)

		ITEM B1	ITEM B2	ITEM B3	ITEM B4	ITEM B5	ITEM B6	ITEM B7	ITEM B8	ITEM B9	ITEM B10
22	Oil:										
22.1.	Total quantity required ℓ										
22.2.	Oil to SANS 555-2 and H_20 < 10 mg/kg	YES/NO*	YES/NO*	YES/NO*	YES/NO*	YES/NO*	YES/NO*	YES/NO*	YES/NO*	YES/NO*	YES/NO*
22.3.	Oil PCB free (< 10 ppm)	YES/NO*	YES/NO*	YES/NO*	YES/NO*	YES/NO*	YES/NO*	YES/NO*	YES/NO*	YES/NO*	YES/NO*
23	MV bushings:										
23.1.	Type										
23.2.	Manufacturer										
23.3.	Model No.										
24	LV bushings:										
24.1.	Type										
24.2.	Manufacturer										
24.3.	Model No.										
25	LV busbars:										
25.1.	Cross sectional area mm²										
25.2.	Maximum current density A/mm²										
26	LV Compartment Split Gland Plate provided, as specified	YES/NO	YES/NO	YES/NO	YES/NO	YES/NO					

Schedule F.13 B: Technical Data - Distribution Transformers

ITEM CATEGORY B: PARTICULARS OF DISTRIBUTION TRANSFORMERS (Cont'd) (Information to be supplied with Tender)

		ITEM B1	ITEM B2	ITEM B3	ITEM B4	ITEM B5	ITEM B6	ITEM B7	ITEM B8	ITEM B9	ITEM B10
27	Short Circuit Withstand Certification:										
28	Valid Short Circuit Withstand certificate referenced and provided?	YES/NO*	YES/NO*	YES/NO*	YES/NO*	YES/NO*	YES/NO*	YES/NO*	YES/NO*	YES/NO*	YES/NO*
29	SANS 60076-5 Similar Transformer motivation provided?	YES / N/A*	YES / N/A*	YES / N/A*	YES / N/A*	YES / N/A*	YES / N/A*	YES / N/A*	YES / N/A*	YES / N/A*	YES / N/A*
30	Transformer Design Sheet provided (if no valid SC Withstand Certificate)?	YES / N/A*	YES / N/A*	YES / N/A*	YES / N/A*	YES / N/A*	YES / N/A*	YES / N/A*	YES / N/A*	YES / N/A*	YES / N/A*

* Delete whichever is not applicable.

Schedule F.13 B: Technical Data - Distribution Transformers

ITEM CATEGORY B: PARTICULARS OF DISTRIBUTION TRANSFORMERS (Information to be supplied with Tender)

		ITEM B11	ITEM B12	ITEM B13	ITEM B14	ITEM B15	ITEM B16	ITEM B17	ITEM B18
31	Name of transformer manufacturer								
32	Derated Power Considering Effects of Harmonics kVA	1600	2000	1600	2000	1000	2000	1000	2000
33	Actual Power Rating kVA								
33.1.	Rated voltage: (a) MV V	11660	11660	11500	11500	11660	11660	11500	11500
33.2.	(b) LV V	420	420	420	420	3300	3300	3300	3300
34	Vector group	Dyn7	Dyn7	Dyn11	Dyn11	Dyn7	Dyn7	Dyn11	Dyn11
35	Grade of cold rolled core steel								
36	Core steel loss at flux density for nominal voltage W/kg								
37	Maximum flux density (peak) in iron at nominal voltage:								
37.1.	(a) Cores Tesla								
37.2.	(b) Yokes Tesla								
38	Maximum current density in windings at rated current:								
38.1.	(a) MV windings A/mm²								
38.2.	(b) LV windings A/mm²								
39	Required: No Load (SANS780) +15% W	1748	2058.5	1748	2058.5	1748	2058.5	1748	2058.5
	(a) Offered No Load W								
40	Required:Load losses (SANS780) +15% W	14720	17365	14720	17365	14720	17365	14720	17365
	(a) Offered Load losses W								
41	Efficiency at rated power, normal ratio and unity power factor %								

Schedule F.13 B: Technical Data - Distribution Transformers

ITEM CATEGORY B: PARTICULARS OF DISTRIBUTION TRANSFORMERS (Cont'd) (Information to be supplied with Tender)

			ITEM B11	ITEM B12	ITEM B13	ITEM B14	ITEM B15	ITEM B16	ITEM B17	ITEM B18
42	Regulation at rated power as percentage of rated voltage:									
42.1.	(a) At unity power factor	%								
42.2.	(b) At 0,8 power factor lagging	%								
43	Rated impedance voltage	%								
44	Sound level	dB								
45	Impulse withstand voltage (peak)	kV	95	95	95	95	95	95	95	95
46	Material and thickness of transformer tank, conservator and radiators:									
46.1.	(a1) Main tank sides and cover material									
46.2.	(a2) Main tank sides and cover thickness	mm								
46.3.	(b1) Tank bottom material									
46.4.	(b2) Tank bottom thickness	mm								
46.5.	(c1) Radiator material									
46.6.	(c2) Radiator thickness	mm								
46.7.	(d1) LV compartment walls and door material									
46.8.	(d2) LV compartment walls and door thickness	mm								
46.9.	(d3) LV compartment cover material									
46.10.	(d4) LV compartment cover thickness	mm								
46.11.	(d5) LV compartment gland plate material									

Schedule F.13 B: Technical Data - Distribution Transformers

ITEM CATEGORY B: PARTICULARS OF DISTRIBUTION TRANSFORMERS (Cont'd) (Information to be supplied with Tender)

			ITEM B11	ITEM B12	ITEM B13	ITEM B14	ITEM B15	ITEM B16	ITEM B17	ITEM B18
46.12.	(d6) LV compartment gland plate thickness	mm								
46.13.	(d7) Lock protector box material									
46.14.	(d8) Lock protector box thickness	mm								
46.15.	(e1) MV cable box material									
46.16.	(e2) MV cable box thickness	mm								
46.17.	(f1) Longitudinal skid underbase material									
46.18.	(f2) Longitudinal skid underbase thickness	mm								
47	Overall dimensions of transformers:									
47.1.	(a) Breadth	mm								
47.2.	(b) Length	mm								
47.3.	(c) Height	mm								
48	Mass of core without windings	kg								
49	MV winding type and material (Cu / Al)									
50	Mass of conductor in MV windings	kg								
51	LV winding type and material (Cu / Al)									
52	Mass of conductor in LV windings	kg								
53	Total mass of complete transformer including oil	kg								

Schedule F.13 B: Technical Data - Distribution Transformers

ITEM CATEGORY B: PARTICULARS OF DISTRIBUTION TRANSFORMERS (Cont'd) (Information to be supplied with Tender)

		ITEM B11	ITEM B12	ITEM B13	ITEM B14	ITEM B15	ITEM B16	ITEM B17	ITEM B18
54	Oil:								
54.1.	Total quantity required ℓ								
54.2.	Oil to SANS 555-2 and H_20 < 10 mg/kg	YES / NO*	YES / NO*	YES / NO*	YES / NO*	YES / NO*	YES / NO*	YES / NO*	YES / NO*
54.3.	Oil PCB free (< 10 ppm)	YES / NO*	YES / NO*	YES / NO*	YES / NO*	YES / NO*	YES / NO*	YES / NO*	YES / NO*
55	MV bushings:								
55.1.	Type								
55.2.	Manufacturer								
55.3.	Model No.								
56	LV bushings:								
56.1.	Type								
56.2.	Manufacturer								
56.3.	Model No.								
57	LV busbars:								
57.1.	Cross sectional area mm²								
57.2.	Maximum current density A/mm²								
58	LV metering	NO	NO	NO	NO	NO	NO	NO	NO
59	Make and type of terminal blocks								

Schedule F.13 B: Technical Data - Distribution Transformers

ITEM CATEGORY B: PARTICULARS OF DISTRIBUTION TRANSFORMERS (Cont'd) (Information to be supplied with Tender)

		ITEM B11	ITEM B12	ITEM B13	ITEM B14	ITEM B15	ITEM B16	ITEM B17	ITEM B18
60	Short Circuit Withstand Certification:								
60.1.	Valid Short Circuit Withstand certificate referenced and provided?	YES / NO*	YES / NO*	YES / NO*	YES / NO*	YES / NO*	YES / NO*	YES / NO*	YES / NO*
60.2.	SANS 60076-5 Similar Transformer motivation provided?	YES / N/A*	YES / N/A*	YES / N/A*	YES / N/A*	YES / N/A*	YES / N/A*	YES / N/A*	YES / N/A*
60.3.	Transformer Design Sheet provided (if no valid SC Withstand Certificate)?	YES / N/A*	YES / N/A*	YES / N/A*	YES / N/A*	YES / N/A*	YES / N/A*	YES / N/A*	YES / N/A*

Schedule F.13 B: Technical Data - Miniature Substations

ITEM CATEGORY C: PARTICULARS OF MINIATURE SUBSTATIONS (Information to be supplied with Tender)

		ITEM C1	ITEM C2	ITEM C3	ITEM C4
1	Name of miniature substation and transformer manufacturer				
2	Derated Power Considering Effects of Harmonics kVA	200	315	500	800
3	Actual Power Rating kVA				
4	Rated voltage: (a) MV V	11660	11660	11660	11660
4.1.	(b) LV V	420	420	420	420
5	Vector group	Dyn7	Dyn7	Dyn7	Dyn7
6	Miniature Substation Type	Type C	Type C	Type C	Type C
7	Miniature Substation Internal Arc Classification (IAC AB 20kA 0,5 s to SANS 62271-202 req'd)				
8	Grade of cold rolled core steel				
9	Core steel loss at flux density for nominal voltage W/kg				
10	Maximum flux density (peak) in iron at nominal voltage:				
10.1.	(a) Cores Tesla				
10.2.	(b) Yokes Tesla				
11	Maximum current density in windings at rated current:				
11.1.	(a) MV windings A/mm²				
11.2.	(b) LV windings A/mm²				

Schedule F.13 B: Technical Data - Miniature Substations

ITEM CATEGORY C: PARTICULARS OF MINIATURE SUBSTATIONS (Cont'd) (Information to be supplied with Tender)

			ITEM C1	ITEM C2	ITEM C3	ITEM C4
12	Required: No Load (SANS780) +15%	W	368	517.5	724.5	1035
	(a) Offered No Load	W				
13	Required:Load losses (SANS780) +15%	W	2990	4140	5980	8625
	(a) Offered Load losses	W				
14	Efficiency at rated power, normal ratio and unity power factor	%				
15	Regulation at rated power as percentage of rated voltage:					
15.1.	(a) At unity power factor	%				
15.2.	(b) At 0,8 power factor lagging	%				
16	Rated impedance voltage	%				
17	Sound level	dB				
18	Impulse withstand voltage	kV	95	95	95	95
19	Material and thickness of MV and LV Compartments, underbase and roof of miniature substation:					
19.1.	(a1) MV and LV compartments material					
19.2.	(a2) MV and LV compartments thickness	mm				
19.3.	(b1) Doors material					
19.4.	(b2) Doors thickness	mm				
19.5.	(c1) Lock protector box material					
19.6.	(c2) Lock protector box thickness	mm				
19.7.	(d1) Channel underbase material					
19.8.	(d2) Channel underbase thickness	mm				
19.9.	(e1) Roof material					
19.10.	(e2) Roof thickness	mm				

Schedule F.13 B: Technical Data - Miniature Substations

ITEM CATEGORY C: PARTICULARS OF MINIATURE SUBSTATIONS (Cont'd) (Information to be supplied with Tender)

				ITEM C1	ITEM C2	ITEM C3	ITEM C4
20	Material and thickness of transformer tank and radiators:						
20.1.	(a1)	Main tank sides and cover material					
20.2.	(a2)	Main tank sides and cover thickness	mm				
20.3.	(b1)	Tank bottom material					
20.4.	(b2)	Tank bottom thickness	mm				
20.5.	(c1)	Tap changer compt & door material					
20.6.	(c2)	Tap changer compt & door thickness	mm				
20.7.	(d1)	Radiator material					
20.8.	(d2)	Radiator thickness	mm				
21	Overall dimensions of miniature substations:						
21.1.	(a)	Breadth	mm				
21.2.	(b)	Length	mm				
21.3.	(c)	Height	mm				
22	SMART Compartment Dimensions:						
23	(a)	Breadth	mm				
24	(b)	Length	mm				
25	(c)	Height	mm				
26	Mass of core without windings		kg				
27	MV winding type and material (Cu / Al)						
28	Mass of conductor in MV windings		kg				
29	LV winding type and material (Cu / Al)						
30	Mass of conductor in LV windings		kg				
31	Total mass of complete miniature substation including oil/SF_6		kg				

Schedule F.13 B: Technical Data - Miniature Substations

ITEM CATEGORY C: PARTICULARS OF MINIATURE SUBSTATIONS (Cont'd) (Information to be supplied with Tender)

		ITEM C1	ITEM C2	ITEM C3	ITEM C4
32	Oil:				
33	Total quantity of oil required (excluding RMU) ℓ				
33.1.	Oil to SANS 555-2 and H_20 < 10 mg/kg	YES / NO*	YES / NO*	YES / NO*	YES / NO*
33.2.	Oil PCB free (< 10 ppm)	YES / NO*	YES / NO*	YES / NO*	YES / NO*
34	MV bushings Make & Model No:				
35	LV bushings Make & Model No:				
36	Screened, insulated and "booted" transformer to RMU flexible connections	YES / NO*	YES / NO*	YES / NO*	YES / NO*
37	Type of Cable (XLPE/EPR/Other?)				
38	Manufacturer and model of SSC on RMU Circuit breaker tee-off bushings				
39	Manufacturer and model of bushing boot on transformer side bushings				
40	LV busbars:				
40.1.	(a) Cross sectional area mm²				
40.2.	(b) Maximum current density A/mm²				
41	Space Provision LV AMI Metering				
42	Make and type of Digital Power Meter				
43	Make and type of Digital Temperature Monitoring Device				
44	Door Intrusion Sensors (all doors)				
45	All devices wired to the SMART compartment?				

		ITEM C1	ITEM C2	ITEM C3	ITEM C4
46	Make and type of Terminal Blocks				
47	Short Circuit Withstand Certification:				
48	Valid Short Circuit Withstand certificate referenced and provided?	YES / NO*	YES / NO*	YES / NO*	YES / NO*
49	SANS 60076-5 Similar Transformer motivation provided?	YES / N/A*	YES / N/A*	YES / N/A*	YES / N/A*
50	Transformer Design Sheet provided (if no valid SC Withstand Certificate)?	YES / N/A*	YES / N/A*	YES / N/A*	YES / N/A*

Schedule F.13 B: Technical Data - Miniature Substations

ITEM CATEGORY C: PARTICULARS OF MINIATURE SUBSTATIONS (Cont'd) (Information to be supplied with Tender)

		ITEM C5	ITEM C6	ITEM C7	ITEM C8	ITEM C9
51	Name of miniature substation and transformer manufacturer					
52	Derated Power Considering Effects of Harmonics kVA	200	315	500	800	1000
53	Actual Power Rating kVA					
54	Rated voltage: (a) MV V	11500	11500	11500	11500	11500
54.1.	(b) LV V	420	420	420	420	420
55	Vector group	Dyn11	Dyn11	Dyn11	Dyn11	Dyn11
56	Miniature Substation Type	Type B	Type B	Type B	Type B	Type B
57	Miniature Substation Internal Arc Classification (IAC AB 20kA 0,5 s to SANS 62271-202 req'd)					
58	Grade of cold rolled core steel					
59	Core steel loss at flux density for nominal voltage W/kg					
60	Maximum flux density (peak) in iron at nominal voltage:					
60.1.	(a) Cores Tesla					
60.2.	(b) Yokes Tesla					
61	Maximum current density in windings at rated current:					
61.1.	(a) MV windings A/mm²					
61.2.	(b) LV windings A/mm²					

Schedule F.13 B: Technical Data - Miniature Substations

ITEM CATEGORY C: PARTICULARS OF MINIATURE SUBSTATIONS (Cont'd) (Information to be supplied with Tender)

			ITEM C5	ITEM C6	ITEM C7	ITEM C8	ITEM C9
62	Required: No Load (SANS780) +15%	W	368	517.5	724.5	1035	1230.5
63	(a) Offered No Load	W					
64	Required: Load losses (SANS780) +15%	W	2990	4140	5980	8625	10235
65	(a) Offered Load losses	W					
66	Efficiency at rated power, normal ratio and unity power factor	%					
67	Regulation at rated power as percentage of rated voltage:						
67.1.	(a) At unity power factor	%					
67.2.	(b) At 0,8 power factor lagging	%					
68	Rated impedance voltage	%					
69	Sound level	dB					
70	Impulse withstand voltage	kV	95	95	95	95	95
71	Material and thickness of MV and LV Compartments, underbase and roof of miniature substation:						
71.1.	(a1) MV and LV compartments material						
71.2.	(a2) MV and LV compartments thickness	mm					
71.3.	(b1) Doors material						
71.4.	(b2) Doors thickness	mm					
71.5.	(e7) Lock protector box material						
71.6.	(e8) Lock protector box thickness	mm					
71.7.	(c1) Channel underbase material						
71.8.	(c2) Channel underbase thickness	mm					
71.9.	(c1) Roof material						
71.10.	(c2) Roof thickness	mm					

Schedule F.13 B: Technical Data - Miniature Substations

ITEM CATEGORY C: PARTICULARS OF MINIATURE SUBSTATIONS (Cont'd) (Information to be supplied with Tender)

				ITEM C5	ITEM C6	ITEM C7	ITEM C8	ITEM C9
71.11.	Material and thickness of transformer tank and radiators:							
71.12.	(a1)	Main tank sides and cover material						
71.13.	(a2)	Main tank sides and cover thickness	mm					
71.14.	(b1)	Tank bottom material						
71.15.	(b2)	Tank bottom thickness	mm					
71.16.	(d1)	Radiator material						
71.17.	(d2)	Radiator thickness	mm					
72	Overall dimensions of miniature substations:							
72.1.	(a)	Breadth	mm					
72.2.	(b)	Length	mm					
72.3.	(c)	Height	mm					
73	SMART Compartment Dimensions:							
73.1.	(a)	Breadth	mm					
73.2.	(b)	Length	mm					
73.3.	(c)	Height	mm					
74	Mass of core without windings		kg					
75	MV winding type and material (Cu / Al)							
76	Mass of conductor in MV windings		kg					
77	LV winding type and material (Cu / Al)							
78	Mass of conductor in LV windings		kg					

Schedule F.13 B: Technical Data - Miniature Substations

ITEM CATEGORY C: PARTICULARS OF MINIATURE SUBSTATIONS (Cont'd) (Information to be supplied with Tender)

		ITEM C5	ITEM C6	ITEM C7	ITEM C8	ITEM C9
79	Total mass of complete miniature substation including oil/SF_6 kg					
80	Oil:					
80.1.	Total quantity of oil required (excluding RMU) ℓ					
80.2.	Oil to SANS 555-2 and H_20 < 10 mg/kg	YES / NO*	YES / NO*	YES / NO*	YES / NO*	YES / NO*
80.3.	Oil PCB free (< 10 ppm)	YES / NO*	YES / NO*	YES / NO*	YES / NO*	YES / NO*
81	MV bushings Make & Model No:					
82	LV bushings Make & Model No:					
83	Screened, insulated and "booted" transformer to RMU flexible connections	YES / NO*	YES / NO*	YES / NO*	YES / NO*	YES / NO*
84	Type of Cable (XLPE/EPR/Other?)					
85	Manufacturer and model of bushing boot on circuit breaker side bushings					
86	Manufacturer and model of bushing boot on transformer side bushings					
87	LV busbars:					
87.1.	(a) Cross sectional area mm²					
87.2.	(b) Maximum current density A/mm²					
88	Space Provision LV AMI Metering					
89	Make and type of Digital Power Meter					
90	Make and type of Digital Temperature Monitoring Device					
91	Door Intrusion Sensors (all doors)					
92	All devices wired to the SMART compartment?					

Schedule F.13 B: Technical Data - Miniature Substations

ITEM CATEGORY C: PARTICULARS OF MINIATURE SUBSTATIONS (Cont'd) (Information to be supplied with Tender)

			ITEM C5	ITEM C6	ITEM C7	ITEM C8	ITEM C9
93	Main MCCB						
94	Manufacturer						
95	Type/Model No.						
96	Rating of MCCB Tendered	A					
97	Rated Short-Circuit breaking (Icu)	kA					
98	Rated Short-time withstand current	kA					
99	Adjustable						
100	Rating Adjustment Range 75% - 100%						
101	Overcurrent Release Mechanism type – Electronic						
102	Rated Current A						
103	Rated Short-time withstand current duration	s					
104	Rated Short-circuit Making Capacity	A					
105	Rated Insulation Level	V					
106	Rated Impulse Withstand Voltage	kV					
107	Short Circuit Withstand Certification:						
107.1.	Valid Short Circuit Withstand certificate referenced and provided?		YES / NO*	YES / NO*	YES / NO*	YES / NO*	YES / NO*
107.2.	SANS 60076-5 Similar Transformer motivation provided?		YES / N/A*	YES / N/A*	YES / N/A*	YES / N/A*	YES / N/A*
107.3.	Transformer Design Sheet provided (if no valid SC Withstand Certificate)?		YES / N/A*	YES / N/A*	YES / N/A*	YES / N/A*	YES / N/A*

Schedule F.13 B: Technical Data - Miniature Substations

ITEM CATEGORY D: PARTICULARS OF HIGH SECURITY MINIATURE SUBSTATIONS (Information to be supplied with Tender)

		ITEM D1	ITEM D2	ITEM D3
1	Name of miniature substation and transformer manufacturer			
2	Derated Power Considering Effects of Harmonics kVA	315	500	800
3	Actual Power Rating kVA			
4	Rated voltage: (a) MV V	11660	11660	11660
5	(b) LV V	420	420	420
6	Vector group	Dyn7	Dyn7	Dyn7
7	Miniature Substation Type	Type C	Type C	Type C
8	Miniature Substation Internal Arc Classification (IAC AB 20kA 0,5 s to SANS 62271-202 req'd)			
9	Grade of cold rolled core steel			
10	Core steel loss at flux density for nominal voltage W/kg			
11	Maximum flux density (peak) in iron at nominal voltage:			
11.1.	(a) Cores Tesla			
11.2.	(b) Yokes Tesla			
12	Maximum current density in windings at rated current:			
12.1.	(a) MV windings A/mm²			
12.2.	(b) LV windings A/mm²			

Schedule F.13 B: Technical Data - Miniature Substations

ITEM CATEGORY D: PARTICULARS OF HIGH SECURITY MINIATURE SUBSTATIONS (Cont'd) (Information to be supplied with Tender)

			ITEM D1	ITEM D2	ITEM D3
13	Required: No Load (SANS780) +15%	W	517.5	724.5	1035
14	(a) Offered No Load	W			
15	Required: Load losses (SANS780) +15%	W	4140	5980	8625
16	(a) Offered Load losses	W			
17	Efficiency at rated power, normal ratio and unity power factor	%			
18	Regulation at rated power as percentage of rated voltage:				
18.1.	(a) At unity power factor	%			
18.2.	(b) At 0,8 power factor lagging	%			
19	Rated impedance voltage	%			
20	Sound level	dB			
21	Impulse withstand voltage	kV	95	95	95
22	Material and thickness of MV and LV Compartments, underbase and roof of miniature substation:				
22.1.	(a1) MV and LV compartments material				
22.2.	(a2) MV and LV compartments thickness	mm			
22.3.	(b1) Doors material				
22.4.	(b2) Doors thickness	mm			
22.5.	(c1) Lock protector box material				
22.6.	(c2) Lock protector box thickness	mm			
22.7.	(d1) Channel underbase material				
22.8.	(d2) Channel underbase thickness	mm			
22.9.	(e1) Roof material				
22.10.	(e2) Roof thickness	mm			

Schedule F.13 B: Technical Data - Miniature Substations

ITEM CATEGORY D: PARTICULARS OF HIGH SECURITY MINIATURE SUBSTATIONS (Cont'd) (Information to be supplied with Tender)

				ITEM D1	ITEM D2	ITEM D3
23	Material and thickness of transformer tank and radiators:					
23.1.	(a1)	Main tank sides and cover material				
23.2.	(a2)	Main tank sides and cover thickness	mm			
23.3.	(b1)	Tank bottom material				
23.4.	(b2)	Tank bottom thickness	mm			
23.5.	(c1)	Tap changer compt & door material				
23.6.	(c2)	Tap changer compt & door thickness	mm			
23.7.	(d1)	Radiator material				
23.8.	(d2)	Radiator thickness	mm			
24	Overall dimensions of miniature substations:					
24.1.	(a)	Breadth	mm			
24.2.	(b)	Length	mm			
24.3.	(c)	Height	mm			
25	SMART Compartment Dimensions:					
26	(a)	Breadth	mm			
27	(b)	Length	mm			
28	(c)	Height	mm			
29	Mass of core without windings		kg			
30	MV winding type and material (Cu / Al)					
31	Mass of conductor in MV windings		kg			
32	LV winding type and material (Cu / Al)					
33	Mass of conductor in LV windings		kg			
34	Total mass of complete miniature substation including oil/SF_6		kg			

Schedule F.13 B: Technical Data - Miniature Substations

ITEM CATEGORY D: PARTICULARS OF HIGH SECURITY MINIATURE SUBSTATIONS (Cont'd) (Information to be supplied with Tender)

		ITEM D1	ITEM D2	ITEM D3
35	Oil:			
35.1.	Total quantity of oil required (excluding RMU) ℓ			
35.2.	Oil to SANS 555-2 and H_20 < 10 mg/kg	YES / NO*	YES / NO*	YES / NO*
35.3.	Oil PCB free (< 10 ppm)	YES / NO*	YES / NO*	YES / NO*
36	MV bushings Make & Model No:			
37	LV bushings Make & Model No:			
38	Screened, insulated and "booted" transformer to RMU flexible connections	YES / NO*	YES / NO*	YES / NO*
39	Type of Cable (XLPE/EPR/Other?)			
40	Manufacturer and model of bushing boot on circuit breaker side bushings			
41	Manufacturer and model of bushing boot on transformer side bushings			
42	LV busbars:			
42.1.	(a) Cross sectional area mm²			
42.2.	(b) Maximum current density A/mm²			
43	Space Provision LV AMI Metering			
44	Make and type of Digital Power Meter			
45	Make and type of Digital Temperature Monitoring Device			
46	Door Intrusion Sensors (all doors)			
47	All devices wired to the SMART compartment?			

		ITEM D1	ITEM D2	ITEM D3
48	Short Circuit Withstand Certification:			
48.1.	Valid Short Circuit Withstand certificate referenced and provided?	YES / NO*	YES / NO*	YES / NO*
48.2.	SANS 60076-5 Similar Transformer motivation provided?	YES / N/A*	YES / N/A*	YES / N/A*
48.3.	Transformer Design Sheet provided (if no valid SC Withstand Certificate)?	YES / N/A*	YES / N/A*	YES / N/A*

* Delete whichever is not applicable.

Schedule F.13 B: Technical Data - Miniature Substations

ITEM CATEGORY D: PARTICULARS OF HIGH SECURITY MINIATURE SUBSTATIONS (Cont'd) (Information to be supplied with Tender)

		ITEM D4	ITEM D5	ITEM D6	ITEM D7
49	Name of miniature substation and transformer manufacturer				
50	Derated Power Considering Effects of Harmonics kVA	315	500	800	1000
51	Actual Power Rating kVA				
52	Rated voltage: (a) MV V	11500	11500	11500	11500
53	(b) LV V	420	420	420	420
54	Vector group	Dyn11	Dyn11	Dyn11	Dyn11
55	Miniature Substation Type	Type B	Type B	Type B	Type B
56	Miniature Substation Internal Arc Classification (IAC AB 20kA 0,5 s to SANS 62271-202 req'd)				
57	Grade of cold rolled core steel				
58	Core steel loss at flux density for nominal voltage W/kg				
59	Maximum flux density (peak) in iron at nominal voltage:				
59.1.	(a) Cores Tesla				
59.2.	(b) Yokes Tesla				
60	Maximum current density in windings at rated current:				
60.1.	(a) MV windings A/mm²				
60.2.	(b) LV windings A/mm²				

Schedule F.13 B: Technical Data - Miniature Substations

ITEM CATEGORY D: PARTICULARS OF HIGH SECURITY MINIATURE SUBSTATIONS (Cont'd) (Information to be supplied with Tender)

			ITEM D4	ITEM D5	ITEM D6	ITEM D7
61	Required: No Load (SANS780) +15%	W	517.5	724.5	1035	1230.5
	(a) Offered No Load	W				
62	Required: Load losses (SANS780) +15%	W	4140	5980	8625	10235
	(a) Offered Load losses	W				
63	Efficiency at rated power, normal ratio and unity power factor	%				
64	Regulation at rated power as percentage of rated voltage:					
64.1.	(a) At unity power factor	%				
64.2.	(b) At 0,8 power factor lagging	%				
65	Rated impedance voltage	%				
66	Sound level	dB				
67	Impulse withstand voltage	kV	95	95	95	95
68	Material and thickness of MV and LV compartments, underbase and roof of miniature substation:					
68.1.	(a1) MV and LV compartments material					
68.2.	(a2) MV and LV compartments thickness	mm				
68.3.	(b1) Doors material					
68.4.	(b2) Doors thickness	mm				
68.5.	(c1) Lock protector box material					
68.6.	(c2) Lock protector box thickness	mm				
68.7.	(d1) Channel underbase material					

				ITEM D4	ITEM D5	ITEM D6	ITEM D7
68.8.	(d2)	Channel underbase thickness	mm				
68.9.	(e1)	Roof material					
68.10.	(e2)	Roof thickness	mm				

Schedule F.13 B: Technical Data - Miniature Substations

ITEM CATEGORY D: PARTICULARS OF HIGH SECURITY MINIATURE SUBSTATIONS (Cont'd) (Information to be supplied with Tender)

				ITEM D4	ITEM D5	ITEM D6	ITEM D7
68.11.	Material and thickness of transformer tank and radiators:						
68.12.	(a1)	Main tank sides and cover material					
68.13.	(a2)	Main tank sides and cover thickness	mm				
68.14.	(b1)	Tank bottom material					
68.15.	(b2)	Tank bottom thickness	mm				
68.16.	(c1)	Radiator material					
68.17.	(c2)	Radiator thickness	mm				
69	Overall dimensions of miniature substations:						
69.1.	(a)	Breadth	mm				
69.2.	(b)	Length	mm				
69.3.	(c)	Height	mm				
70	SMART Compartment Dimensions:						
71	(a)	Breadth	mm				
72	(b)	Length	mm				
73	(c)	Height	mm				
74	Mass of core without windings		kg				
75	MV winding type and material (Cu / Al)						
76	Mass of conductor in MV windings		kg				
77	LV winding type and material (Cu / Al)						
78	Mass of conductor in LV windings		kg				

Schedule F.13 B: Technical Data - Miniature Substations

ITEM CATEGORY D: PARTICULARS OF HIGH SECURITY MINIATURE SUBSTATIONS (Cont'd) (Information to be supplied with Tender)

		ITEM D4	ITEM D5	ITEM D6	ITEM D7
79	Total mass of complete miniature substation including oil/SF_6 kg				
80	Oil:				
80.1.	Total quantity of oil required (excluding RMU) ℓ				
80.2.	Oil to SANS 555-2 and H_20 < 10 mg/kg	YES / NO*	YES / NO*	YES / NO*	YES / NO*
80.3.	Oil PCB free (< 10 ppm)	YES / NO*	YES / NO*	YES / NO*	YES / NO*
81	MV bushings Make & Model No:				
82	LV bushings Make & Model No:				
83	Screened, insulated and "booted" transformer to RMU flexible connections	YES / NO*	YES / NO*	YES / NO*	YES / NO*
84	Type of Cable (XLPE/EPR/Other?)				
85	Manufacturer and model of bushing boot on circuit breaker side bushings				
86	Manufacturer and model of bushing boot on transformer side bushings				
87	LV busbars:				
87.1.	(a) Cross sectional area mm²				
87.2.	(b) Maximum current density A/mm²				
88	Space Provision LV AMI Metering				
89	Make and type of Digital Power Meter				
90	Make and type of Terminal Blocks				
91	Make and type of Digital Temperature Monitoring Device				

* Delete whichever is not applicable.

Schedule F.13 B: Technical Data - Miniature Substations

ITEM CATEGORY D: PARTICULARS OF HIGH SECURITY MINIATURE SUBSTATIONS (Cont'd) (Information to be supplied with Tender)

			ITEM D4	ITEM D5	ITEM D6	ITEM D7
92	Main Switch-disconnector					
93	Make					
94	Model					
95	Utilisation Category					
96	Rated Current	A				
97	Rated Short-time withstand current	kA				
98	Rated Short-time withstand current duration	s				
99	Rated Short-circuit Making Capacity	A				
100	Rated Insulation Level	V				
101	Rated Impulse Withstand Voltage	kV				
102	Short Circuit Withstand Certification:					
102.1.	Valid Short Circuit Withstand certificate referenced and provided?		YES / NO*	YES / NO*	YES / NO*	YES / NO*
102.2.	SANS 60076-5 Similar Transformer motivation provided?		YES / N/A*	YES / N/A*	YES / N/A*	YES / N/A*
102.3.	Transformer Design Sheet provided (if no valid SC Withstand Certificate)?		YES / N/A*	YES / N/A*	YES / N/A*	YES / N/A*

* Delete whichever is not applicable.

Schedule F.13 B: Technical Data - Miniature Substations

ITEM CATEGORY D: PARTICULARS OF HIGH SECURITY MINIATURE SUBSTATIONS (Cont'd) (Information to be supplied with Tender)

		ITEM D4	ITEM D5	ITEM D6	ITEM D7
103	Name of miniature substation and transformer manufacturer				
104	Derated Power Considering Effects of Harmonics kVA	315	500	800	1000
105	Actual Power Rating kVA				
106	Rated voltage: (a) MV V	11500	11500	11500	11500
107	(b) LV V	420	420	420	420
108	Vector group	Dyn11	Dyn11	Dyn11	Dyn11
109	Miniature Substation Type	Type B	Type B	Type B	Type B
110	Miniature Substation Internal Arc Classification (IAC AB 20kA 0,5 s to SANS 62271-202 req'd)				
111	Grade of cold rolled core steel				
112	Core steel loss at flux density for nominal voltage W/kg				
113	Maximum flux density (peak) in iron at nominal voltage:				
113.1.	(a) Cores Tesla				
113.2.	(b) Yokes Tesla				
114	Maximum current density in windings at rated current:				
114.1.	(a) MV windings A/mm²				
114.2.	(b) LV windings A/mm²				

Schedule F.13 B: Technical Data - Miniature Substations

ITEM CATEGORY D: PARTICULARS OF HIGH SECURITY MINIATURE SUBSTATIONS (Cont'd) (Information to be supplied with Tender)

			ITEM D4	ITEM D5	ITEM D6	ITEM D7
115	Required: No Load (SANS780) +15%	W				
116	(a) Offered No Load	W				
117	Required: Load losses (SANS780) +15%	W				
118	(a) Offered Load losses	W				
119	Efficiency at rated power, normal ratio and unity power factor	%				
120	Regulation at rated power as percentage of rated voltage:					
120.1.	(a) At unity power factor	%				
120.2.	(b) At 0,8 power factor lagging	%				
121	Rated impedance voltage	%				
122	Sound level	dB				
123	Impulse withstand voltage	kV	95	95	95	95
124	Material and thickness of MV and LV compartments, underbase and roof of miniature substation:					
124.1.	(a1) MV and LV compartments material					
124.2.	(a2) MV and LV compartments thickness	mm				
124.3.	(b1) Doors material					
124.4.	(b2) Doors thickness	mm				
124.5.	(c1) Lock protector box material					
124.6.	(c2) Lock protector box thickness	mm				
124.7.	(d1) Channel underbase material					
124.8.	(d2) Channel underbase thickness	mm				
124.9.	(e1) Roof material					
124.10	(e2) Roof thickness	mm				

Schedule F.13 B: Technical Data - Miniature Substations

ITEM CATEGORY D: PARTICULARS OF HIGH SECURITY MINIATURE SUBSTATIONS (Cont'd) (Information to be supplied with Tender)

				ITEM D4	ITEM D5	ITEM D6	ITEM D7
124.11	Material and thickness of transformer tank and radiators:						
124.12	(a1)	Main tank sides and cover material					
124.13	(a2)	Main tank sides and cover thickness	mm				
124.14	(b1)	Tank bottom material					
124.15	(b2)	Tank bottom thickness	mm				
124.16	(c1)	Radiator material					
124.17	(c2)	Radiator thickness	mm				
125	Overall dimensions of miniature substations:						
125.1.	(a)	Breadth	mm				
125.2.	(b)	Length	mm				
125.3.	(c)	Height	mm				
126	SMART Compartment Dimensions:						
127	(a)	Breadth	mm				
128	(b)	Length	mm				
129	(c)	Height	mm				
130	Mass of core without windings		kg				
131	MV winding type and material (Cu / Al)						
132	Mass of conductor in MV windings		kg				
133	LV winding type and material (Cu / Al)						
134	Mass of conductor in LV windings		kg				

Schedule F.13 B: Technical Data - Miniature Substations

ITEM CATEGORY D: PARTICULARS OF HIGH SECURITY MINIATURE SUBSTATIONS (Cont'd) (Information to be supplied with Tender)

		ITEM D4	ITEM D5	ITEM D6	ITEM D7
135	Total mass of complete miniature substation including oil/SF_6 kg				
136	Oil:				
136.1.	Total quantity of oil required (excluding RMU) ℓ				
136.2.	Oil to SANS 555-2 and H_20 < 10 mg/kg	YES / NO*	YES / NO*	YES / NO*	YES / NO*
136.3.	Oil PCB free (< 10 ppm)	YES / NO*	YES / NO*	YES / NO*	YES / NO*
137	MV bushings Make & Model No:				
138	LV bushings Make & Model No:				
139	Screened, insulated and "booted" transformer to RMU flexible connections	YES / NO*	YES / NO*	YES / NO*	YES / NO*
140	Type of Cable (XLPE/EPR/Other?)				
141	Manufacturer and model of bushing boot on circuit breaker side bushings				
142	Manufacturer and model of bushing boot on transformer side bushings				
143	LV busbars:				
143.1.	(a) Cross sectional area mm²				
143.2.	(b) Maximum current density A/mm²				
144	Space Provision LV AMI Metering				
145	Make and type of Digital Power Meter				
146	Make and type of Digital Temperature Monitoring Device				
147	Door Intrusion Sensors (all doors)				
148	All devices wired to the SMART compartment?				

* Delete whichever is not applicable

Schedule F.13 B: Technical Data - Miniature Substations

ITEM CATEGORY D: PARTICULARS OF HIGH SECURITY MINIATURE SUBSTATIONS (Cont'd) (Information to be supplied with Tender)

			ITEM D4	ITEM D5	ITEM D6	ITEM D7
149	Main Switch-disconnector					
150	Make					
151	Model					
152	Utilisation Category					
153	Rated Current	A				
154	Rated Short-time withstand current	kA				
155	Rated Short-time withstand current duration	s				
156	Rated Short-circuit Making Capacity	A				
157	Rated Insulation Level	V				
158	Rated Impulse Withstand Voltage	kV				
159	Short Circuit Withstand Certification:					
159.1.	Valid Short Circuit Withstand certificate referenced and provided?		YES / NO*	YES / NO*	YES / NO*	YES / NO*
159.2.	SANS 60076-5 Similar Transformer motivation provided?		YES / N/A*	YES / N/A*	YES / N/A*	YES / N/A*
159.3.	Transformer Design Sheet provided (if no valid SC Withstand Certificate)?		YES / N/A*	YES / N/A*	YES / N/A*	YES / N/A*

* Delete whichever is not applicable.

Schedule F.13 B: Technical Data – Water and Sanitation Transformers

ITEM CATEGORY E: PARTICULARS OF WATER AND SANITATIONTRANSFORMERS (Information to be supplied with Tender)

			ITEM E1	ITEM E2	ITEM E3	ITEM E4	ITEM E5	ITEM E6	ITEM E7	ITEM E8	ITEM E9	ITEM E10
1	Name of transformer manufacturer											
2	Derated Power Considering Effects of Harmonics	kVA	200	200	315	315	500	500	500	500	500	500
2.1.	Actual Power Rating	kVA										
2.2.	Rated voltage: (a) MV	V	3300	3300	3300	3300	3300	3300	3300	3300	11500	11660
2.3.	(b) LV	V	420	420	420	420	420	420	420	420	3300	3300
3	Vector group		Dyn7	Dyn11	Dyn7	Dyn11	Dyn7	Dyn11	Dyn7	Dyn11	Dyn11	Dyn7
4	Grade of cold rolled core steel											
5	Core steel loss at flux density for nominal voltage	W/kg										
6	Maximum flux density (peak) in iron at nominal voltage:											
6.1.	(a) Cores	Tesla										
6.2.	(b) Yokes	Tesla										
7	Maximum current density in windings at rated current:											
7.1.	(a) MV windings	A/mm²										
7.2.	(b) LV windings	A/mm²										
8	Required: No Load (SANS780) +15%	W	368	368	517.5	517.5	724.5	724.5	724.5	724.5	724.5	724.5
9	(a) Offered No Load	W										
10	Required: Load losses (SANS780) +15%	W	2990	2990	4140	4140	5980	5980	5980	5980	5980	5980
11	(a) Offered Load losses	W										
12	Efficiency at rated power, normal ratio and unity power factor	%										

Schedule F.13 B: Technical Data – Water and Sanitation Transformers

ITEM CATEGORY E: PARTICULARS OF WATER AND SANITATIONTRANSFORMERS (Information to be supplied with Tender)

			ITEM E1	ITEM E2	ITEM E3	ITEM E4	ITEM E5	ITEM E6	ITEM E7	ITEM E8	ITEM E9	ITEM E10
13	Regulation at rated power as percentage of rated voltage:											
13.1.	(a) At unity power factor	%										
13.2.	(b) At 0,8 power factor lagging	%										
14	Rated impedance voltage	%										
15	Sound level	dB										
16	Impulse withstands voltage (peak)	kV	95	95	95	95	95	95	95	95	95	95
17	Material and thickness of transformer tank, conservator and radiators:											
17.1.	(a1) Main tank sides and cover material											
17.2.	(a2) Main tank sides and cover thickness	mm										
17.3.	(b1) Tank bottom material											
17.4.	(b2) Tank bottom thickness	mm										
17.5.	(c1) Radiator material											
17.6.	(c2) Radiator thickness	mm										
17.7.	(d1) LV compartment walls and door material											
17.8.	(d2) LV compartment walls and door thickness	mm										
17.9.	(d3) LV compartment cover material											
17.10.	(d4) LV compartment cover thickness	mm										
17.11.	(d5) LV compartment gland plate material											

Schedule F.13 B: Technical Data – Water and Sanitation Transformers

ITEM CATEGORY E: PARTICULARS OF WATER AND SANITATIONTRANSFORMERS (Information to be supplied with Tender)

			ITEM E1	ITEM E2	ITEM E3	ITEM E4	ITEM E5	ITEM E6	ITEM E7	ITEM E8	ITEM E9	ITEM E10
17.12.	(d6) LV compartment gland plate thickness	mm										
17.13.	(d7) Lock protector box material											
17.14.	(d8) Lock protector box thickness	mm										
17.15.	(e1) MV cable box material											
17.16.	(e2) MV cable box thickness	mm										
17.17.	(f1) Longitudinal skid underbase material											
17.18.	(f2) Longitudinal skid underbase thickness	mm										
18	Overall dimensions of transformers:											
18.1.	(a) Breadth	mm										
18.2.	(b) Length	mm										
18.3.	(c) Height	mm										
19	Mass of core without windings	kg										
20	MV winding type and material (Cu / Al)											
21	Mass of conductor in MV windings	kg										
22	LV winding type and material (Cu / Al)											
23	Mass of conductor in LV windings	kg										
24	Total mass of complete transformer including oil	kg										

Schedule F.13 B: Technical Data – Water and Sanitation Transformers

ITEM CATEGORY E: PARTICULARS OF WATER AND SANITATIONTRANSFORMERS (Information to be supplied with Tender)

		ITEM E1	ITEM E2	ITEM E3	ITEM E4	ITEM E5	ITEM E6	ITEM E7	ITEM E8	ITEM E9	ITEM E10
25	Oil:										
25.1.	Total quantity required ℓ										
25.2.	Oil to SANS 555-2 and H_20 < 10 mg/kg	YES/NO*	YES/NO*	YES/NO*	YES/NO*	YES/NO*	YES/NO*	YES/NO*	YES/NO*	YES/NO*	YES/NO*
25.3.	Oil PCB free (< 10 ppm)	YES/NO*	YES/NO*	YES/NO*	YES/NO*	YES/NO*	YES/NO*	YES/NO*	YES/NO*	YES/NO*	YES/NO*
26	MV bushings:										
26.1.	Type										
26.2.	Manufacturer										
26.3.	Model No.										
27	LV bushings:										
27.1.	Type										
27.2.	Manufacturer										
27.3.	Model No.										
28	LV busbars:										
28.1.	Cross sectional area mm²										
28.2.	Maximum current density A/mm²										
29	LV Compartment Split Gland Plate provided, as specified	YES/NO	YES/NO	YES/NO	YES/NO	YES/NO					
30	Short Circuit Withstand Certification:										
31	Valid Short Circuit Withstand certificate referenced and provided?	YES/NO*	YES/NO*	YES/NO*	YES/NO*	YES/NO*	YES/NO*	YES/NO*	YES/NO*	YES/NO*	YES/NO*
32	SANS 60076-5 Similar Transformer motivation provided?	YES / N/A*	YES / N/A*	YES / N/A*	YES / N/A*	YES / N/A*	YES / N/A*	YES / N/A*	YES / N/A*	YES / N/A*	YES / N/A*
33	Transformer Design Sheet provided (if no valid SC Withstand Certificate)?	YES / N/A*	YES / N/A*	YES / N/A*	YES / N/A*	YES / N/A*	YES / N/A*	YES / N/A*	YES / N/A*	YES / N/A*	YES / N/A*

Schedule F.13 B: Technical Data – Water and Sanitation Transformers

ITEM CATEGORY E: PARTICULARS OF WATER AND SANITATIONTRANSFORMERS (Information to be supplied with Tender)

		ITEM E11	ITEM E12	ITEM E13	ITEM E14	ITEM E15	ITEM E16	ITEM E17	ITEM E18
1	Name of transformer manufacturer								
2	Derated Power Considering Effects of Harmonics kVA	800	800	1000	1000	1500	1600	2000	2000
2.1.	Actual Power Rating kVA								
2.2.	Rated voltage: (a) MV V	3300	11660	11500	11660	3300	11500	11500	11500
2.3.	(b) LV V	420	3300	3300	3300	420	420	420	420
3	Vector group	YNd11	Dyn7	Dyn11	Dyn7	Dyn11	Dyn11	YNd11	YNd11
4	Grade of cold rolled core steel								
5	Core steel loss at flux density for nominal voltage W/kg								
6	Maximum flux density (peak) in iron at nominal voltage:								
6.1.	(a) Cores Tesla								
6.2.	(b) Yokes Tesla								
7	Maximum current density in windings at rated current:								
7.1.	(a) MV windings A/mm²								
7.2.	(b) LV windings A/mm²								
8	Required: No Load (SANS780) +15% W	1035	1035	1230.5	1230.5	1520	1748	2058.5	2058.5
9	(a) Offered No Load W								
10	Required: Load losses (SANS780) +15% W	8625	8625	10235	10235	12800	14720	17365	17365
11	(a) Offered Load losses W								
12	Efficiency at rated power, normal ratio and unity power factor %								

Schedule F.13 B: Technical Data – Water and Sanitation Transformers

ITEM CATEGORY E: PARTICULARS OF WATER AND SANITATIONTRANSFORMERS (Information to be supplied with Tender)

			ITEM E11	ITEM E12	ITEM E13	ITEM E14	ITEM E15	ITEM E16	ITEM E17	ITEM E18
13	Regulation at rated power as percentage of rated voltage:									
13.1.	(a) At unity power factor	%								
13.2.	(b) At 0,8 power factor lagging	%								
14	Rated impedance voltage	%								
15	Sound level	dB								
16	Impulse withstands voltage (peak)	kV	95	95	95	95	95	95	95	95
17	Material and thickness of transformer tank, conservator and radiators:									
17.1.	(a1) Main tank sides and cover material									
17.2.	(a2) Main tank sides and cover thickness	mm								
17.3.	(b1) Tank bottom material									
17.4.	(b2) Tank bottom thickness	mm								
17.5.	(c1) Radiator material									
17.6.	(c2) Radiator thickness	mm								
17.7.	(d1) LV compartment walls and door material									
17.8.	(d2) LV compartment walls and door thickness	mm								
17.9.	(d3) LV compartment cover material									
17.10.	(d4) LV compartment cover thickness	mm								
17.11.	(d5) LV compartment gland plate material									

Schedule F.13 B: Technical Data – Water and Sanitation Transformers

ITEM CATEGORY E: PARTICULARS OF WATER AND SANITATIONTRANSFORMERS (Information to be supplied with Tender)

			ITEM E11	ITEM E12	ITEM E13	ITEM E14	ITEM E15	ITEM E16	ITEM E17	ITEM E18
17.12.	(d6) LV compartment gland plate thickness	mm								
17.13.	(d7) Lock protector box material									
17.14.	(d8) Lock protector box thickness	mm								
17.15.	(e1) MV cable box material									
17.16.	(e2) MV cable box thickness	mm								
17.17.	(f1) Longitudinal skid underbase material									
17.18.	(f2) Longitudinal skid underbase thickness	mm								
18	Overall dimensions of transformers:									
18.1.	(a) Breadth	mm								
18.2.	(b) Length	mm								
18.3.	(c) Height	mm								
19	Mass of core without windings	kg								
20	MV winding type and material (Cu / Al)									
21	Mass of conductor in MV windings	kg								
22	LV winding type and material (Cu / Al)									
23	Mass of conductor in LV windings	kg								
24	Total mass of complete transformer including oil	kg								

Schedule F.13 B: Technical Data – Water and Sanitation Transformers

ITEM CATEGORY E: PARTICULARS OF WATER AND SANITATIONTRANSFORMERS (Information to be supplied with Tender)

			ITEM E11	ITEM E12	ITEM E13	ITEM E14	ITEM E15	ITEM E16	ITEM E17	ITEM E18
25	Oil:									
25.1.	Total quantity required	ℓ								
25.2.	Oil to SANS 555-2 and H_20 < 10 mg/kg		YES / NO*	YES / NO*	YES / NO*	YES / NO*	YES / NO*	YES / NO*	YES / NO*	YES / NO*
25.3.	Oil PCB free (< 10 ppm)		YES / NO*	YES / NO*	YES / NO*	YES / NO*	YES / NO*	YES / NO*	YES / NO*	YES / NO*
26	MV bushings:									
26.1.	Type									
26.2.	Manufacturer									
26.3.	Model No.									
27	LV bushings:									
27.1.	Type									
27.2.	Manufacturer									
27.3.	Model No.									
28	LV busbars:									
28.1.	Cross sectional area	mm²								
28.2.	Maximum current density	A/mm²								

Schedule F.13 B: Technical Data – Water and Sanitation Transformers

ITEM CATEGORY E: PARTICULARS OF WATER AND SANITATIONTRANSFORMERS (Information to be supplied with Tender)

		ITEM E11	ITEM E12	ITEM E13	ITEM E14	ITEM E15	ITEM E16	ITEM E17	ITEM E18
29	Short Circuit Withstand Certification:								
29.1.	Valid Short Circuit Withstand certificate referenced and provided?	YES / NO*	YES / NO*	YES / NO*	YES / NO*	YES / NO*	YES / NO*	YES / NO*	YES / NO*
29.2.	SANS 60076-5 Similar Transformer motivation provided?	YES / N/A*	YES / N/A*	YES / N/A*	YES / N/A*	YES / N/A*	YES / N/A*	YES / N/A*	YES / N/A*
29.3.	Transformer Design Sheet provided (if no valid SC Withstand Certificate)?	YES / N/A*	YES / N/A*	YES / N/A*	YES / N/A*	YES / N/A*	YES / N/A*	YES / N/A*	YES / N/A*

Schedule F.13 B: Technical Data – Water and Sanitation Transformers

ITEM CATEGORY E: PARTICULARS OF WATER AND SANITATIONTRANSFORMERS (Information to be supplied with Tender)

			ITEM E19	ITEM E20	ITEM E21	ITEM E22	ITEM E23	ITEM E24	ITEM E25	-
30	Name of transformer manufacturer									-
31	Derated Power Considering Effects of Harmonics	kVA	2000	2000	2000	2000	2500	2500	2500	-
31.1.	Actual Power Rating	kVA								
31.2.	Rated voltage: (a) MV	V	11500	11500	11660	11660	3300	11660	11660	-
31.3.	(b) LV	V	420	3300	420	3300	420	420	690	-
32	Vector group		Dyn11	Dyn11	Dyn7	Dyn7	Dyn11	YNd11	Dyn7	-
33	Grade of cold rolled core steel									-
34	Core steel loss at flux density for nominal voltage	W/kg								-
35	Maximum flux density (peak) in iron at nominal voltage:									-
35.1.	(a) Cores	Tesla								-
35.2.	(b) Yokes	Tesla								-
36	Maximum current density in windings at rated current:									-
36.1.	(a) MV windings	A/mm²								-
36.2.	(b) LV windings	A/mm²								-
37	Required: No Load (SANS780) +15%	W	2058.5	2058.5	2058.5	2058.5	2438	2438	2438	
38	(a) Offered No Load	W								
39	Required: Load losses (SANS780) +15%	W	17365	17365	17365	17365	20700	20700	20700	
40	(a) Offered Load losses	W								
41	Efficiency at rated power, normal ratio and unity power factor	%								-

Schedule F.13 B: Technical Data – Water and Sanitation Transformers

ITEM CATEGORY E: PARTICULARS OF WATER AND SANITATIONTRANSFORMERS (Information to be supplied with Tender)

			ITEM E19	ITEM E20	ITEM E21	ITEM E22	ITEM E23	ITEM E24	ITEM E25	-
42	Regulation at rated power as percentage of rated voltage:									
42.1.	(a) At unity power factor	%								-
42.2.	(b) At 0,8 power factor lagging	%								-
43	Rated impedance voltage	%								-
44	Sound level	dB								-
45	Impulse withstand voltage (peak)	kV	95	95	95	95	95	95	95	-
46	Material and thickness of transformer tank, conservator and radiators:									-
46.1.	(a1) Main tank sides and cover material									
46.2.	(a2) Main tank sides and cover thickness	mm								-
46.3.	(b1) Tank bottom material									-
46.4.	(b2) Tank bottom thickness	mm								-
46.5.	(c1) Radiator material									-
46.6.	(c2) Radiator thickness	mm								-
46.7.	(d1) LV compartment walls and door material									-
46.8.	(d2) LV compartment walls and door thickness	mm								-
46.9.	(d3) LV compartment cover material									-
46.10.	(d4) LV compartment cover thickness	mm								-
46.11.	(d5) LV compartment gland plate material									-

Schedule F.13 B: Technical Data - Water and Sanitation Transformers

ITEM CATEGORY E: PARTICULARS OF WATER AND SANITATIONTRANSFORMERS (Information to be supplied with Tender)

			ITEM E19	ITEM E20	ITEM E21	ITEM E22	ITEM E23	ITEM E24	ITEM E25	-
46.12.	(d6) LV compartment gland plate thickness	mm								-
46.13.	(d7) Lock protector box material									-
46.14.	(d8) Lock protector box thickness	mm								-
46.15.	(e1) MV cable box material									-
46.16.	(e2) MV cable box thickness	mm								-
46.17.	(f1) Longitudinal skid underbase material									-
46.18.	(f2) Longitudinal skid underbase thickness	mm								-
47	Overall dimensions of transformers:									-
47.1.	(a) Breadth	mm								-
47.2.	(b) Length	mm								-
47.3.	(c) Height	mm								-
48	Mass of core without windings	kg								-
49	MV winding type and material (Cu / Al)									-
50	Mass of conductor in MV windings	kg								-
51	LV winding type and material (Cu / Al)									-
52	Mass of conductor in LV windings	kg								-
53	Total mass of complete transformer including oil	kg								-

Schedule F.13 B: Technical Data - Water and Sanitation Transformers

ITEM CATEGORY E: PARTICULARS OF WATER AND SANITATIONTRANSFORMERS (Information to be supplied with Tender)

			ITEM E19	ITEM E20	ITEM E21	ITEM E22	ITEM E23	ITEM E24	ITEM E25	-
54	Oil:									
54.1.	Total quantity required	ℓ								-
54.2.	Oil to SANS 555-2 and H_20 < 10 mg/kg		YES / NO*	YES / NO*	YES / NO*	YES / NO*	YES / NO*	YES / NO*	YES / NO*	-
54.3.	Oil PCB free (< 10 ppm)		YES / NO*	YES / NO*	YES / NO*	YES / NO*	YES / NO*	YES / NO*	YES / NO*	-
55	MV bushings:									-
55.1.	Type									-
55.2.	Manufacturer									-
55.3.	Model No.									-
56	LV bushings:									-
56.1.	Type									-
56.2.	Manufacturer									-
56.3.	Model No.									-
57	LV busbars:									-
57.1.	Cross sectional area	mm²								-
57.2.	Maximum current density	A/mm²								-

Schedule F.13 B: Technical Data – Water and Sanitation Transformers

ITEM CATEGORY E: PARTICULARS OF WATER AND SANITATIONTRANSFORMERS (Information to be supplied with Tender)

		ITEM E19	ITEM E20	ITEM E21	ITEM E22	ITEM E23	ITEM E24	ITEM E25	-
58	Short Circuit Withstand Certification:								
58.1.	Valid Short Circuit Withstand certificate referenced and provided?	YES / NO*	YES / NO*	YES / NO*	YES / NO*	YES / NO*	YES / NO*	YES / NO*	-
58.2.	SANS 60076-5 Similar Transformer motivation provided?	YES / N/A*	YES / N/A*	YES / N/A*	YES / N/A*	YES / N/A*	YES / N/A*	YES / N/A*	-
58.3.	Transformer Design Sheet provided (if no valid SC Withstand Certificate)?	YES / N/A*	YES / N/A*	YES / N/A*	YES / N/A*	YES / N/A*	YES / N/A*	YES / N/A*	-

Schedule F.13 B: Technical Data - Design Consideration for the effects of Distributed Network Harmonics (DNH)

TRANSFORMER AND MINIATURE SUBSTATION TRANSFORMER DESIGN CONSIDERATION FOR THE EFFECTS OF DISTRIBUTED NETWORK HARMONICS

Manufacturers to specify below, all additional design considerations that will be applied to mitigate the effects of the above DNH (Section 5.2 of the specification)
1.
2.
3.
4.
5.

If additional pages are required, you are welcome to attach it, and refer to this schedule

Schedule F.13 B: Technical Data - Main MCCB Protection Ratings and Protection Settings

MAIN MCCB PROTECTION SETTINGS

Protection Function	200 kVA Setting	315 kVA Setting	500 kVA Setting	800 kVA Setting	1000 kVA Setting
Overload current setting					
Overload time delay setting or curve					
Short circuit time delay setting (Minimum)					
Short circuit time delay setting (Maximum)					

MAIN MCCB RATINGS

Criteria	200 kVA	315 kVA	500 kVA	800 kVA	1000 kVA
Manufacturer					
Type / Model No					
Rating of MCCB					
Ultimate Breaking Capacity (I_{cu}) (kA)					
Adjustable (YES)					
Overcurrent release technology (Electronic)					

Schedule F.13 B: Technical Data – Self-Powered Relay Protection Settings

	200 kVA	315 kVA	500 kVA	800 kVA	1000 kVA
Nominal Current (I_r) [A]					
Primary Current Setting (I_s) [A]					
Injected Primary Current					
Relay Tripping Time (s)					

Schedule F.13 B: Technical Data - Miniature Substations

PARTICULARS OF RING MAIN UNITS FOR MINIATURE SUBSTATIONS (Information to be supplied with Tender)

	DESCRIPTION	SPECIFIED	OFFERED
1	**SF6 Ring Main Units**	-	
1.1.	Manufacturer		
1.2.	Equipment type and Model (Identifying name)	-	
1.3.	Insulation medium	SF_6	
1.4.	Switch Disconnector Interrupting Medium	SF_6	
1.5.	Switch disconnector interrupting medium	SF_6 / Vacuum	
1.6.	Rated voltage kV	12	
1.7.	Highest voltage kV	13,2	
1.8.	Frequency Hz	50	
1.9.	Rated short-time withstand current kA	20 for 3s	
1.10.	Rated peak withstand current kA	50	
1.11.	Rated peak lightning impulse withstand voltage kV	95	
1.12.	Rated short-time power frequency withstand rms voltage kV	28	
1.13.	Internal arc classification of ring main unit / miniature substation combination (SANS 62271-202)	IAC AB 20kA 0,5s	
1.14.	Rated normal current of busbars A	630	
1.15.	Rated normal current of ring main switch disconnector A	630	
1.16.	Rated normal current of circuit breaker tee-off A	200	
2	**Rated short circuit breaking current:** Circuit breaker tee-off kA	20	
3	Rated short circuit making current (all modules) kA pk	50	
4	Integral cable earthing switch:		
4.1.	ring main switch disconnector	YES	
4.2.	Circuit breaker tee-off	YES	
5	Making capacity of ring main switch disconnector earthing switch kA peak	50	

* Delete whichever is not applicable.

Schedule F.13 B: Technical Data - Miniature Substations

PARTICULARS OF RING MAIN UNITS FOR MINIATURE SUBSTATIONS (Cont'd) (Information to be supplied with Tender)

	DESCRIPTION	SPECIFIED	OFFERED
6	Making capacity of circuit breaker tee-off earthing switch kA peak	50	
7	Switch disconnector Class	E2 M1	
8	Circuit Breaker Class	E2 M1 C2	
9	Circuit breaker rated operating sequence	O-t-CO-t-CO t = 3 min	
10	Integral cable test facilities:		
10.1.	ring main switch disconnector	Required	
11	Extensible busbars	Design specific	
12	Accessibility of Compartments:		
12.1.	RMU Gas insulated switch compartment	Non-accessible	
12.2.	RMU Cable compartments	Interlock-controlled	
12.3.	RMU Cable test facility compartment	Interlock-controlled	
13	Ring main unit partition class	PM	
14	Ring main unit loss of service continuity category	LSC1	
15	Minimum degree of protection – ring main unit MV compts	IP 2X	

* Delete whichever is not applicable.

Schedule F.13 B: Technical Data - Miniature Substations

PARTICULARS OF RING MAIN UNITS FOR MINIATURE SUBSTATIONS (Cont'd) (Information to be supplied with Tender)

	DESCRIPTION		SPECIFIED	OFFERED
16	RMU maximum test voltages (DC to earth)	kV_{dc}	19	
17	RMU maximum test voltages (AC to earth)	kV_{ac}	13	
18	Units are to be lockable with padlocks with 5 mm diameter shackle (Supplied by the Purchaser)		YES	
19	Mass of unit complete with SF_6 and operating mechanism	kg	-	
20	Volume of SF_6 in complete unit	ℓ	-	
21	Lifting facilities provided		YES	
22	Dimensions of cable boxes:			
22.1.	Height	mm	-	
22.2.	Depth	mm	-	
22.3.	Width	mm	-	
23	Cable support clamps suitable for 3-core aluminium or copper 35 mm^2 to 240 mm^2 PILC DSTA cable		YES	
24	Distance between cable support clamp and cable bushing centres (switch disconnector and circuit breaker tee-off)	mm	800	
25	Distance between cable bushing centres	mm	SANS 876	#
26	Distance from cable bushing contact face to nearest earthed metal	mm	SANS 876	#
27	Cable Bushings:			
27.1.	Switch Disconnectors		EN 50181 Type C	
27.2.	Circuit breaker tee-off		EN 50181 Type C	

* Delete whichever is not applicable.
# Detail actual value, not SANS reference.

Schedule F.13 B: Technical Data - Miniature Substations

PARTICULARS OF RING MAIN UNITS FOR MINIATURE SUBSTATIONS (Cont'd) (Information to be supplied with Tender)

	DESCRIPTION		SPECIFIED	OFFERED
28	Cable bushings routine partial discharge tested		YES	
29	Ring main unit material details:			
29.1.	Type of material: Main Switch Tank		-	
29.2.	Material thickness: Main Switch Tank	mm	-	
29.3.	Type of material: Sheet Steel Work		-	
29.4.	Material thickness: Sheet Steel Work	mm	-	
29.5.	Corrosion protection method: Sheet Steel Work		-	
30	Transit and storage bushing covers provided		YES	
31	**Earth Fault Indicators**			
31.1.	Earth fault indicator Make			
31.2.	Earth fault indicator Type and Model			
31.3.	Earth Fault Indicator Sensitivity	A	$25<I_e<50$	
31.4.	Earth fault indicator resetting		Automatic and Manual	
31.5.	Automatic resetting time delay	hr	8	
31.6.	Earth fault indicator power source		Self powered	
31.7.	Earth fault indicator battery life	yrs		
31.8.	Earth fault indicator power source		AC powered	
31.9.	Auxiliary contacts provided for status indication		YES	
31.10.	Remote indicator provided on kiosk for outdoor RMUs		YES	
32	**Cable Live Indication & Electrical Phasing Facilities**			
32.1.	Equipment make		-	
32.2.	Equipment model / type		-	
32.3.	Equipment VDIS compliant in accordance with SANS 62271-213		YES	
32.4.	Permanent 3 phase facilities		YES	
32.5.	Bring back the protection information as a separate section on this schedule.			

* Delete whichever is not applicable.

ITEM	DESCRIPTION	EQUIPMENT REQUIRED	RING MAIN UNITS EQUIPMENT OFFERED
33	**Protection Relays - Self Powered Relays for Circuit Breaker Modules**		
33.1.	Relay Make and Model	-	
33.2.	Relay overcurrent characteristics	DT, NI, VI, EI	
33.3.	Relay earth fault characteristics	DT, NI, VI, EI	
33.4.	Current transformer relays: Overcurrent setting range	20 – 140% I_n, 2.5% steps	
33.5.	Current transformer relays: Earth fault setting range	10 – 100% I_n, 2.5% steps	
33.6.	IDMTL Time multiplier settings	Min 0,05, 0,01 steps	
33.7.	DT Time settings	Inst, 0,04 s – 1s, 0,05 s steps	
33.8.	Minimum Primary Current for full relay functionality % In	-	
33.9.	Relay “Wake-Up” time, CB closed onto fault ms	-	
33.10.	Total time to trip: CB closed on fault (relay not “awake”), at settings:		
33.10.1.	IDMT, NI Curve, 2 x In, 0,1 time multiplier ms	-	
33.10.2.	DT, 10 x In, Instantaneous ms	-	
33.11.	Total time to trip: fault while on load (relay “awake”), at settings: IDMT, NI Curve, 2 x		
33.11.1.	In, 0,1 time multiplier ms		
33.11.2.	DT, 10 x In, Instantaneous ms		
33.12.	Trip indication	LED / HMI; pickup, I>/I>> trip per phase, I_o>/ I_o >> trip	
33.13.	Trip indication manually resettable off-load	YES	YES/NO*
33.14.	Protection relay fitted with electronic HMI	YES	YES/NO*
33.15.	Load current indication per phase	YES	YES/NO*
33.16.	Event and fault history record buffer	YES	YES/NO*
33.17.	Number of fault events / disturbances recorded	2 (minimum)	
33.18.	HMI back-up battery type (where applicable)	-	
33.19.	HMI back-up battery minimum service life yr	10	
33.20.	HMI minimum normal functionality duration (no CT / off-load / fault h	72	

ITEM	DESCRIPTION	EQUIPMENT REQUIRED	RING MAIN UNIT EQUIPMENT OFFERED
33.21.	Standard protection relay IP rating, as installed	IP54	
34	**Protection Current Transformers**		
34.1.	Means of current measurement	CTs	
34.2.	CT Make and designation	-	
34.3.	CT fully compliant to SANS / IEC 61869-2	YES	YES/NO*
34.4.	CT Mounting Position	Bushing / Cable Tail	
34.5.	CT Ratio A	100/200/1	
34.6.	CT Class and accuracy limit factor	5P10	
34.7.	CT Rated burden VA	2,5	
34.8.	CT Short time current rating kA for 1 s	20	

Schedule F.13 B: Technical Data - Supporting Documentation

DETAILS OF GUARANTEES, TYPE TEST CERTIFICATION AND SUPPORTING DOCUMENTATION (Information to be supplied with Tender)

	DESCRIPTION	SPECIFIED	OFFERED
1	Type Tests:		
1.1.	Transformers Type Tested to the specified standards?	YES	YES/NO*
1.2.	Schedule of Type Tests for Transformers submitted with tender, as specified?	YES	YES/NO*
1.3.	Specific motivation for use of SANS 60076-5 Similar Transformers provision included with tender, per Item and per instance?	YES	YES/NO*
1.4.	Miniature Substations Type Tested to the specified standards?	YES	YES/NO*
1.5.	Schedule of Type Tests for Miniature Substations submitted with tender, as specified?	YES	YES/NO*
1.6.	Ring Main Units Type Tested to the specified standards?	YES	YES/NO*
1.7.	Schedule of Type Tests for Ring main Units submitted with tender, as specified?	YES	YES/NO*
2	Transformer Design Sheets and Short Circuit calculations included for all Items without valid and applicable Short Circuit Withstand Certificate?	YES	YES/NO*
3	Drawings:		
3.1.	Dimensioned General Arrangement drawings for Pole Mounted Transformer, Distribution Transformer and Miniature Substation Items included with Tender, as specified?	YES	YES/NO*
3.2.	Dimensioned General Arrangement drawings for the Ring Main Unit included with Tender, as specified?	YES	YES/NO*
3.3.	Dimensioned section drawings of RMU and Miniature Substation internal arc overpressure relief provisions included with Tender, as specified?	YES	YES/NO*
3.4.	Electrical schematic diagrams for Miniature Substation, Transformer and Ring Main Units included with Tender, as specified?	YES	YES/NO*
4	Operating and Maintenance Instructions:		
4.1.	Detailed Operating and Maintenance Instruction documentation for Ring main units and other equipment included with Tender, as specified?	YES	YES/NO*
5	Guarantees:		
5.1.	Manufacturer's Guarantee: Minisub stations and Transformers months	12	
5.2.	Manufacturer's Guarantee: Ring Main Units months	12	
5.3.	Manufacturer's Guarantee: Earth Fault Indicator Equipment months	12	

* Delete whichever is not applicable.

Schedule F.13 C: Details of Quality System and Manufacturing and After Sales Facilities in South Africa

(To be completed by Tenderer; Use Separate Sheet per Manufacturer)

	DESCRIPTION	TENDERER / MANUFACTURER DETAIL
1	**Manufacturer:**	
2	Name	
3	Factory Address	
4	Telephone Number	
5	Total years established Years	
6	Total years manufacturing units as specified (attach detail) Years	
7	Total Technical Staff employed by Manufacturer at above premises	
8	Total Administrative Staff employed by Manufacturer	
9	Factory total floor area m^2	
10	Current factory transformer & mini substation monthly capacity	
11	Planned factory monthly manufacturing capacity for this contract	
12	Address of Cape Town repair or workshop facilities (if different from above)	
13	Are all required spare parts available in Republic of South Africa?	YES/NO*
14	**Manufacturer Quality Assurance System:**	
14.1.	Is QA system approved in terms of SANS 9001?	YES/NO*
14.2.	If yes, state registration certificate No.	
14.3.	Manufacturer SANS 9001 certificate attached?	YES/NO*
14.4.	Manufacturer QA Plan and Company Organigram attached?	YES/NO*
15	**Tenderer name** (If different from Manufacturer)	
15.1.	Tenderer Address	
15.2.	Telephone Number	
15.3.	Tenderer total years established Years	
15.4.	Total Technical Staff employed by Tenderer	
15.5.	Total Administrative Staff employed by Tenderer	
15.6.	Tenderer premises total floor area m^2	

Schedule F.13 D: Manufacturer's Experience

(To be completed by Tenderer)

The Tenderer shall insert in the spaces provided below a list of contracts awarded to the **Manufacturer** in the past 10 years for equivalent distribution transformers and miniature substations and those contracts currently being undertaken.

EMPLOYER / CLIENT (NAME, TEL No. AND FAX No.)	QUANTITY (AND RATING RANGE) OF DISTRIBUTION TRANSFORMERS, TYPE B MINISUBS AND TYPE C MINISUBS SUPPLIED (EACH)	VALUE OF WORK R(m)	DURATION OF CONTRACT	COMPLETION DATE
COMPLETED CONTRACTS				
CURRENT CONTRACTS				

Note: If the above is insufficient the Tenderer shall complete the Schedule by affixing completed numbered copies of Schedule 13D.

SIGNED ON BEHALF OF TENDERER: . . . . . .

Schedule F.13 E: Departures from the Requirements of the Specification

(To be completed by Tenderer)

Clause	Departures from the requirements of this Specification with details of alternative proposals

Note: If the above is insufficient the Tenderer shall complete the Schedule by affixing completed numbered copies of Schedule 13E.

SIGNED ON BEHALF OF TENDERER: . . . . . .

Schedule F.14: Appeal Application

Annexure 'B'

OFFICIAL RECEIPT
(Valid only if printend
By official cash
Receipting machine)

IRISITI ESESIKWENI
(Isemthethweni kuphela
xa ishicilelwe
Ngumatshini wokukhupa
irisiti osesikweni)

AMPTELIKE KWITANSIE
(Geldig alleenlik indien deur
amptelike kontantvangs
masjien gedruk)

GL DATA CAPTURE RECEIPT
(CASHIER TO RETAIN A COPY)

Receipt NO: _____

DATE: _____

SAP GL:

8	1	0	1	0	0

PROFIT CENTRE:

1	3	0	5	0	0	0	1

NAME/COMPANY NAME

AMOUNT

			R	3	0	0	-	0	0

SERVICE DEPARTMENT DETAILS:

DEPARTMENT: LEGAL SERVICES: APPEALS UNIT

CONTACT PERSON: CHARLENE CEBEKHULU / MELANIE CLOETE

PHONE NO: 021 400 2503 / 021 400 3788

OFFICIAL RECEIPT
(Valid only if printend
By official cash
Receipting machine)

IRISITI ESESIKWENI
(Isemthethweni kuphela
xa ishicilelwe
Ngumatshini wokukhupa
irisiti osesikweni)

AMPTELIKE KWITANSIE
(Geldig alleenlik indien deur
amptelike kontantvangs
masjien gedruk)

GL DATA CAPTURE RECEIPT
(CASHIER TO RETAIN A COPY)

Receipt NO: _____

DATE: _____

SAP GL:

8	1	0	1	0	0

PROFIT CENTRE:

1	3	0	5	0	0	0	1

NAME/COMPANY NAME

AMOUNT

			R	3	0	0	-	0	0

SERVICE DEPARTMENT DETAILS:

DEPARTMENT: LEGAL SERVICES: APPEALS UNIT

CONTACT PERSON: CHARLENE CEBEKHULU / MELANIE CLOETE

PHONE NO: 021 400 2503 / 021 400 3788