


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

TENDER NO: 229G/2023/24
TENDER DESCRIPTION: SUPPLY AND DELIVERY OF STM 16/4/1 & MPLS-TP FIBRE OPTIC MULTIPLEXER AND EXTENSION AND SUPPORT OF EXISTING MULTIPLEXER NETWORK MANAGEMENT SYSTEM
CONTRACT PERIOD: 36 MONTHS FROM THE COMMENCEMENT DATE OF THE CONTRACT
CLOSING DATE 13 May 2025

CLOSING TIME 10:00 am

TENDER BOX NUMBER 237

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	
3	

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THE TENDER

T.1 GENERAL TENDER INFORMATION

TENDER ADVERTISED	:	04 April 2025
SITE VISIT/CLARIFICATION MEETING	:	Time: 10:00 on Date: 17-04-2025 (Not compulsory, but strongly recommended)
VENUE FOR SITE VISIT/CLARIFICATION MEETING	:	:(Virtual) Microsoft Teams https://teams.microsoft.com/l/meetup-join/19%3ameeting_ZTE4OWY0OWUtYjJIYy00NTc5LWFkMzYtYmU3N2ZmMWQ0YTFj%40thread.v2/0?context=%7b%22Tid%22%3a%22ff731495-b3c8-44b3-93f8-6fca8fc5a699%22%2c%22Oid%22%3a%22f5bd3b11-6507-45c7-a4ad-14fe887d915c%22%7d Meeting ID: 367 882 054 459 Passcode: i9Aw6iM2
TENDER BOX & ADDRESS	:	<p>Tender Box as per front cover at the Tender & Quotation Boxes Office, 2nd Floor (Concourse Level), Civic Centre, 12 Hertzog Boulevard, Cape Town.</p> <p>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. 229G/2023/24: - TENDER DESCRIPTION: Supply and delivery of STM 16/4/1 & MPLS-TP fibre optic multiplexer and extension and support of existing multiplexer network management system", 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.</p>
CCT TENDER REPRESENTATIVE	:	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

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:

- (a) due to changed circumstances, there is no longer a need for the services, works or goods requested; or
- (b) funds are no longer available to cover the total envisaged expenditure; or
- (c) no acceptable tenders are received;
- (d) there is a material irregularity in the tender process; or
- (e) the Parties are unable to negotiate market related pricing.

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 Conditions of Tender, a contract will be concluded with the tenderer who scores the highest number of tender adjudication points.

The CCT intends to appoint two tenderers (the highest ranked tenderer ("the winner") and in addition an "Alternative tenderer") for the allocation of work per Section, for Section A, Section B, Section C and Section D.

A tenderer can be awarded one or more sections. 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 "winner-takes-all" 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 next highest ranked tenderer from the Alternative tenderers).

The contract period shall be for a period of 36 Months from the commencement date of the contract.

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 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 alternative bidder in terms of the procedures included its SCM Policy.

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

2.1.6.1 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.

2.1.6.2 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 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.

2.1.6.3 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).

- 2.1.6.4** 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

- 2.1.6.5** 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

2.1.6.6 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.

2.1.6.7 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 $\frac{1}{2}$ (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.

2.1.7 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.

2.1.8 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 'acceptable 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;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;
- j) 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);
- k) 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; 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 Tenderers who are not Original Equipment Manufacturers/ Authorised Distributors.

Tenderer who are not the Original Equipment Manufacturer (OEM) of the offered equipment must provide proof of authorization. The proof shall be in the form of a letter from the OEM or the Authorised Distributor, confirming that the tenderer is an authorized reseller or distributor of the equipment for Tender No: 229G/2023/24 . The letter shall also confirm full compliance with the tender conditions and specifications. If the tenderer is submitting an authorization letter from the Authorised Distributor, the tenderer shall additionally provide an authorization letter from the OEM to the Authorised Distributor, confirming that the distributor is authorized.

An OEM letter shall be submitted with the tender submission, which must be attached in Returnable Schedule F.13, or within 7 working days period when requested to do so by the City of Cape Town.

Failure to submit a letter from the Original Equipment Manufacturer (OEM) with the tender document or on request shall lead to the tender submission being declared non-responsive.

2.2.1.1.4 Compulsory Clarification meeting

Not Applicable

2.2.1.1.5 Minimum score for functionality

Only those tenders submitted by tenderers who achieve the minimum score for functionality as stated below will be declared responsive.

The description of the functionality criteria and the maximum possible score for each is shown in the table below. The score achieved for functionality will be the sum of the scores achieved, in the evaluation process, for the individual criteria.

Functionality Criteria	Weighting	Score	Maximum
Company's proven track record in the distribution and support services of a multiplexer network system, installed into High Voltage and Medium Voltage substations (Refer to Schedule F.13E and 13F) with proven track record and Provide minimum of two referral signed letters.	0 to <3 Years 3 to <4Years 4 to < 5Years 5+ Years	0 15 20 25	25
Proven experience of the Technician (Field Service Engineer) In the setup, configuration and installation of OT network SDH and MPLS-TP networks (Refer to Schedule F.13D) and Provide detailed staff CV and relevant experience.	0 to < 3 Years 3 to < 4 Years 4 to < 5 Years 5+ Years	0 15 20 25	25
Total			50

The minimum qualifying score for functionality is 30 points **[60%]** out of a maximum of 50 points **[100%]**.

Where the entity tendering is a Joint Venture, the tenderer's tender response must be accompanied by a statement describing exactly what aspects of the work will be undertaken by each party to the joint venture.

Tenderers shall ensure that all relevant information has been submitted with the tender offer in the prescribed format to ensure optimal scoring of functionality points for each Evaluation Criteria. Failure to provide all information **IN THIS TENDER SUBMISSION** could result in the tenderer not being able to achieve the specified minimum scoring.

No new information will be accepted after the closing date of tender. Tenderers are reminded to populate the schedules completely and to submit all the required supporting documents to avoid being deemed non-responsive or losing functionality points due to missing documentation.

A more detailed explanation of the functionality criteria is given below:
Refer to Schedule F 13 a, b, c, d, e, f

2.2.1.1.7 Provision of samples

Not applicable

2.2.1.1.8 Schedule of Technical Particulars

Tenderers are required to comply with required specifications and complete relevant Schedule F.13A, 13B, 13C: Schedule of Technical Particulars attached to the tender document in full and provide details of the items tendered. Failure to complete and comply with specifications shall render the tender offer non-responsive.

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 C2, 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 Bid 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

Tenderer's 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 non responsive.

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 (C.4)**: Based on the sum of the prices/rates in relation to the estimated quantities.

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 80/20 preference point system will apply to this tender

The 80/20 price/preference points system will be applied to the evaluation of responsive tenders up to and including 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:

$$Ps = 80 \times \left(1 - \frac{(Pt - Pmin)}{Pmin} \right)$$

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 B1: Awards above R750 000 and up to R50 mil (VAT Inclusive)

#	Specific goals allocated points	Preference Points (80/20) <i>Equal/ below R50 mil</i>	Evidence	Additional Guidance
<i>Persons, or categories of persons, historically disadvantaged - (HDI) by unfair discrimination on the basis of</i>				
1	Gender are women (ownership)* >75% - 100% women ownership: 5 points >50% - 75% women ownership: 4 points >25% - 50% women ownership: 3 points >0% - 25% women ownership: 2 points 0% women ownership = 0 points	5	<ul style="list-style-type: none"> Company Registration Certification Central Supplier Database report 	<ul style="list-style-type: none"> Issued by the Companies and Intellectual Property Commission Report name: CSD Registration report
2	Race are black persons (ownership)* >75% - 100% black ownership: 5 points >50% - 75% black ownership: 4 points >25% - 50% black ownership: 3 points >0% - 25% black ownership: 2 points 0% black ownership = 0 points	5	<ul style="list-style-type: none"> B-BBEE certificate; Company Registration Certification Central Supplier Database report 	<ul style="list-style-type: none"> South African National Accreditation System approved certificate or commissioned sworn affidavit Issued by the Companies and Intellectual Property Commission Report name: CSD Registration report
3	Disability are disabled persons (ownership)* WHO disability guideline >2% ownership: 3 points >0% - 2% ownership: 1.5 point 0% ownership = 0 points	3	<ul style="list-style-type: none"> Proof of disability Company Registration Certification 	<ul style="list-style-type: none"> Medical certificate/ South African Revenue Services disability registration Issued by the Companies and Intellectual Property Commission
<i>Reconstruction and Development Programme (RDP) as published in Government Gazette</i>				
4	Promotion of Micro and Small Enterprises <i>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)</i> <i>SME partnership, sub-contracting, joint venture or consortiums</i>	7	<ul style="list-style-type: none"> B-BBEE status level of contributor; South African owned enterprises; Financial Statement to determine annual turnover 	<ul style="list-style-type: none"> Specifically in line with the respective sector codes which the company operates, South African National Accreditation System approved certificate or commissioned sworn affidavit Certificate of incorporation or commissioned sworn affidavit Latest financial statements (1 Year)
	Total points	20		

*Ownership: main tendering entity

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 Standby bidder 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		 <div>CITY OF CAPE TOWN ISIXEKO SASEKAPA STAD KAAPSTAD</div>	
SUPPLY CHAIN MANAGEMENT			
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TENDER NO: 229G/2023/24

TENDER DESCRIPTION: Supply and delivery of STM 16/4/1 & MPLS-TP fibre optic multiplexer and extension and support of existing multiplexer network management system

CONTRACT PERIOD: 36 MONTHS FROM THE COMMENCEMENT DATE OF THE 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 _____ <div style="text-align: right;">(Name & Surname)</div> 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?	<input type="checkbox"/> Yes <input type="checkbox"/> No If yes, enclose proof
Is tenderer a foreign based supplier for the Goods / Services / Works offered?	<input type="checkbox"/> Yes <input type="checkbox"/> 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? <input type="checkbox"/> Yes <input type="checkbox"/> No
	b) Does the tenderer have a permanent establishment in the Republic of South Africa? <input type="checkbox"/> Yes <input type="checkbox"/> No
	c) Does the tenderer have any source of income in the Republic of South Africa? <input type="checkbox"/> Yes <input type="checkbox"/> No
	d) Is the tenderer liable in the Republic of South Africa for any form of taxation? <input type="checkbox"/> Yes <input type="checkbox"/> No
Other Required registration numbers	

C.2 FORM OF OFFER AND ACCEPTANCE

TENDER 229G /2023/24: Supply and delivery of STM 16/4/1 & MPLS-TP fibre optic multiplexer and extension and support of existing multiplexer network management system

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:

INITIALS OF CCT OFFICIALS		
1	2	3

FORM OF OFFER AND ACCEPTANCE (continued)

TENDER 229G/2023/24: Supply and delivery of STM 16/4/1 & MPLS-TP fibre optic multiplexer and extension and support of existing multiplexer network management system

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:

FORM OF OFFER AND ACCEPTANCE (continued)

TENDER 229G/2023/24: Supply and delivery of STM 16/4/1 & MPLS-TP fibre optic multiplexer and extension and support of existing multiplexer network management system

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

.....

2 Subject

Details

.....

3 Subject

Details

.....

4 Subject

Details

.....

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.

FORM OF OFFER AND ACCEPTANCE (continued)

TENDER 229G/2023/24: Supply and delivery of STM 16/4/1 & MPLS-TP fibre optic multiplexer and extension and support of existing multiplexer network management system

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

ONLY TO BE
COMPLETED AT
ACCEPTANCE STAGE

C.3 OCCUPATIONAL HEALTH AND SAFETY AGREEMENT

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

.....,
(Supplier/Mandatory/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 aton the.....day of.....20....

Witness

Mandatory

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 trade mark, 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 TRADE MARK, NAME, PATENT, DESIGN, TYPE, SPECIFIC ORIGIN OR PRODUCER, SUCH REFERENCE SHALL BE DEEMED TO BE ACCOMPANIED BY THE WORDS 'OR EQUIVALENT'

Section A

TO SUPPLY, MAINTAIN AND SUPPORT THE EXISTING STM 16/4/1 & MPLS-TPSDH/PDH (ABBFOX) NODE/MULTIPLEXER SYSTEM Or Equivalent.

Item No.	Refer To Spec Items	Description	Unit	Price Per Unit (Excl. VAT) (R)	Delivery Period from Date of Official Purchase Order in weeks (Preferred delivery within 12 weeks)
ITEM 1 – NETWORK MANAGEMENT SYSTEM					
1.1	1	Extension, support and upgrading of existing Fibre Multiplexer Network Management System (FOXMAN) Hardware.	Each	R	
1.2	1	Management System Software Engineering Support Agreement	Each	R	
1.3	1	Management Multiple Viewer Licence	Each	R	
1.4	1	Management Hot Standby Server	Each	R	

Item No.	Refer To Spec Items	Description	Unit	Price Per Unit (Excl. VAT) (R)	Delivery Period from Date of Official Purchase Order in weeks (Preferred delivery within 12 weeks)
ITEM 2 – SDH/PDH MULTIPLEXER					
2.1	2	Supply, factory test and delivery of STM16, STM4, STM1 and 2MB SDH/PDH multiplexers including dual CPU modules. This shall be equipped with Dual PSU input at 48vDC.	Each	R	
2.1.1	2.5.1	SDH STM16 trunk link complete with SFPs	Each	R	
2.1.2	2.5.1	SDH STM4 trunk link complete with SFPs	Each	R	
2.1.3	2.1	Central Ethernet Switching Module	Each	R	
2.1.4	2.5.3	HDSL trunk link	Each	R	
2.1.5	2.5.4	4 – Wire Interface	Each	R	
2.1.6	2.5.5	Analogue Subscriber interface	Each	R	
2.1.7	2.5.6	Exchange Interface	Each	R	
2.1.8	2.5.8	Data Interface	Each	R	
2.1.9	2.5.9	64 K Bits Co – directional Interface	Each	R	
2.1.10	2.5.10	24 port 10/100/1000 Base T Ethernet Interface	Each	R	
2.1.11	2.5.11	12 port 100/1000 Base F Ethernet Interface	Each	R	
2.1.12	2.5.12	4 port Router Interface	Each	R	
2.1.13	2.5.13	Tele-protection Interface	Each	R	
2.1.14	2.5.14	Optical Protection Relays Interface	Each	R	
2.1.15	2.5.16	2Mbit/s G.703 / G. 704 Interface for PDH Unit	Each	R	
2.1.16	2.5.12	Alarm interface unit	Each	R	

Item No.	Refer To Spec Items	Description	Unit	Price Per Unit (Excl. VAT) (R)	Delivery Period from Date of Official Purchase Order in weeks (Preferred delivery within 12 weeks)
2.1.17	2.5.7	Voice over IP Interface	Each	R	
2.1.18	2.5.1	Feature License: Upgrade STM4 to STM16	Each	R	
2.1.19	2.5.1.7	S1.1 SFP – STM1 (155Mbps) – 20km	Each	R	
2.1.20	2.5.1.7	L1.1 SFP – STM1 (155Mbps) – 40km	Each	R	
2.1.21	2.5.1.7	L1.2 SFP – STM1 (155Mbps) – 80km	Each	R	
2.1.22	2.5.1.7	S4.1 SFP – STM4 (622Mbps) – 20km	Each	R	
2.1.23	2.5.1.7	L4.1 SFP – STM4 (622Mbps) – 40km	Each	R	
2.1.24	2.5.1.7	L4.2 SFP – STM4 (622Mbps) – 80km	Each	R	
2.1.25	2.5.1.7	S16.1 SFP – STM16 (2.5Gbps) – 20km	Each	R	
2.1.26	2.5.1.7	L16.1 SFP – STM16 (2.5Gbps) – 40km	Each	R	
2.1.27	2.5.1.7	L16.2 SFP – STM16 (2.5Gbps) – 80km	Each	R	

Item No.	Refer To Spec Items	Description	Unit	Price Per Unit (Excl. VAT) (R)	Delivery Period from Date of Official Purchase Order in weeks (Preferred delivery within 12 weeks)
ITEM 3 – SDH/PDH ADDITIONAL SYSTEM REQUIREMENTS					
3.1	2.5.19	Suitable 45/47U cabinet with accessories to house equipment offered in item 2.	Each	R	
3.2	2.5.17	Training on the existing FOXMAN network management system	Per session	R	
3.3	2.4.2	48 Volt DC Charger.(Dual 220 VAC – 48VDC	Each	R	
3.4	–	Battery Charger Module. Single charger module for 48VDC charger described in item 3.3	Each	R	
3.5	9	Engineering Support Engineering support for period on site/remote and related costs			
3.5.1	9	Engineering Support. Engineering support for period of daily rate on site/remote and related costs	Daily rate	R	
3.5.2	9	Engineering Support. Engineering support for period of hourly rate on site/remote and related costs	Hourly Rate	R	
3.5.3	9	Engineering Support. Engineering support for onsite support for a period of 3 days and related costs	3 days		
3.6	–	SDH/PDH compatible HMI Test Unit. Node engineering tool	Each	R	
3.7	–	Annual Existing FOXMAN Remote Access Support Fee (Up to 4 users)	Per Annum	R	
3.8	–	Existing FOXMAN Remote Access Hardware (up to 4 users) or Equivalent	Each	R	
3.9	6.4	IEC 61850 Ethernet switch.	Each	R	

Item No.	Refer To Spec Items	Description	Unit	Price Per Unit (Excl. VAT) (R)	Delivery Period from Date of Official Purchase Order in weeks (Preferred delivery within 12 weeks)
ITEM 4 – OTHER: (Tenderer to indicate below licenses and additional spares required for SDH/PDH system) Tenderers may add to the list and continue with the item numbering					
4.1				R	
4.2				R	
4.3				R	
4.4				R	
4.5				R	
4.6				R	

Section B**TO SUPPLY, MAINTAIN AND SUPPORT THE EXISTING MPLS TP 1/10 GB (OTN- XTRAN) NODE/MULTIPLEXER SYSTEM**

Item No.	Refer To Spec Items	Description	Unit	Price Per Unit (Excl. VAT) (R)	Delivery Period from Date of Official Purchase Order in weeks (Preferred delivery within 12 weeks)
ITEM 5– NETWORK MANAGEMENT SYSTEM					
5.1	3	Extension, support and upgrading of existing Fibre Multiplexer Network Management System (Existing TXCare) Hardware.	Each	R	
5.2	3	Management System Software Engineering Support Agreement	Each	R	
5.3	3	Management Multiple Viewer Licence	Each	R	
5.4	3	Management Hot Standby Server	Each	R	
5.5	3.1	User Services license (Service)	Each	R	

Item No.	Refer To Spec Items	Description	Unit	Price Per Unit (Excl. VAT) (R)	Delivery Period from Date of Official Purchase Order in weeks (Preferred delivery within 12 weeks)
ITEM 6 – MULTIPLEXER/NODE					
6.1	4.3	Supply, factory test and delivery of chassis 19” mountable, small . This shall be equipped with Dual PSU input at 48vDC,	Each	R	
6.2	4.3	Supply, factory test and delivery of chassis 19” mountable, medium . This shall be equipped with Dual PSU input at 48vDC,	Each	R	

Item No.	Refer To Spec Items	Description	Unit	Price Per Unit (Excl. VAT) (R)	Delivery Period from Date of Official Purchase Order in weeks (Preferred delivery within 12 weeks)
ITEM 7 – MPLS-TP INTERFACES					
7.1	5.1.2	Gigabit interface	Each	R	
7.2	5.1.3	10 Gigabit interface	Each	R	
7.3	5.1.4	IP Routing interface	Each	R	
7.4	5.1.5	C37.94 interface	Each	R	
7.5	5.1.6	E1/T1 interface	Each	R	
7.6	5.1.7	Serial interface	Each	R	
7.7	5.1.8	2W/4W E&M interface	Each	R	
7.7	5.1.9	SHDSL Interface	Each	R	
7.8	5.1.10	G.703 Co Directional	Each	R	
7.9	5.1.11	Optical Low Speed interface	Each	R	
7.10	5.1.12	FXS interface	Each	R	
7.11	5.1.13	CPU Interface: To match offered equipment in item 6	Each	R	
7.12	5.1.14	Power supply interface: match offered equipment in item 6	Each	R	

Item No.	Refer To Spec Items	Description	Unit	Price Per Unit (Excl. VAT) (R)	Delivery Period from Date of Official Purchase Order in weeks (Preferred delivery within 12 weeks)
ITEM 8 – MPLS TP OPTICAL MODULES(SFP & XFP)					
8.1.1	5.1	SFP for C37.94 1310nm -15km G.652	Each	R	
8.1.2	5.1	1Gb SFP 1310nm- LX – 10km G.652 (To be provided for specific chassis/optical card tendered for)	Each	R	
8.1.3	5.1	1Gb SFP 1310nm- EX – 40km G.652 (To be provided for specific chassis/optical card tendered for)	Each	R	
8.1.4	5.1	1Gb SFP – BX – 20km (Bi directional, 1310/1550nm) G.652 (To be provided for specific chassis/optical card tendered for)	Each	R	
8.1.5	5.1	1Gb SFP – BX – 20km (Bi directional, 1550/1310nm) G.652 (To be provided for specific chassis/optical card tendered for)	Each	R	
8.1.6	5.1	10Gb XFP 1310nm- LR – 10km G.652 (To be provided for specific chassis/optical card tendered for)	Each	R	
8.1.7	5.1	10Gb XFP 1550nm- ER – 40km G.652 (To be provided for specific chassis/optical card tendered for)	Each	R	

Item No.	Refer To Spec Items	Description	Unit	Price Per Unit (Excl. VAT) (R)	Delivery Period from Date of Official Purchase Order in weeks (Preferred delivery within 12 weeks)
8.1.8	5.1	10Gb XFP 1550nm- ZR – 80km G.652 (To be provided for specific chassis/optical card tendered for)	Each	R	
8.1.9	5.1	10Gb XFP - BX – 10km G.652 (Bi directional, 1270/1310nm) (To be provided for specific chassis/optical card tendered for)	Each	R	
8.1.10	5.1	10Gb XFP - BX – 10km G.652 (Bi directional, 1310/1270nm) (To be provided for specific chassis/optical card tendered for)	Each	R	

Item No.	Refer To Spec Items	Description	Unit	Price Per Unit (Excl. VAT) (R)	Delivery Period from Date of Official Purchase Order in weeks (Preferred delivery within 12 weeks)
ITEM 9 – MPLS-TP ADDITIONAL SYSTEM REQUIREMENTS					
9.1	2.5.19	Suitable 45/47U cabinet with accessories (Fans) to house system equipment offered in Item 7.	Each	R	
9.2	5.2	Training on the network management system	Per session	R	
9.3	4.4.2	48 Volt DC Switch mode, 1U, 3 modules, (Dual 220 VAC – 48VDC Battery charger, remote manageable.	Each	R	
9.4	4.4.2	Battery Charger Module. Single charger module (850W) for 48VDC charger described in item 9.3	Each	R	
9.5	4.4.2.	Suitable ETSI cabinet with accessories to house battery charger (As described in item 9.3) and 4 x 12V Lead acid 100 – 105Ah batteries	Each	R	
9.6	9	Engineering Support. Engineering support for period of hourly rate or daily rate on site/remote and related costs	2 day visit/ hourly rate	R	
9.6.1	9	Engineering Support. Engineering support for period of hourly rate on remote and related costs	Hourly Rate	R	
9.6.2	9	Engineering Support. Engineering support for period of daily rate on site/remote and related costs	Daily Rate	R	
9.6.3	9	Engineering Support. Engineering support for period of daily rate on site/remote and related costs	2 day visit	R	
9.7		IEC 61850 Ethernet switch.	Each	R	

Item No.	Refer To Spec Items	Description	Unit	Price Per Unit (Excl. VAT) (R)	Delivery Period from Date of Official Purchase Order in weeks (Preferred delivery within 12 weeks)
ITEM 10– OTHER: (Tenderer to indicate below Licenses and additional spares required for the quoted MPLS-TP system) can add addition lines					
10.1					
10.2					
10.3					
10.4					
10.5					
10.6					

Section C –Plug and Play devices

Item No.	Refer To Spec Items	Description	Unit	Price Per Unit (Excl. VAT) (R)	Delivery Period from Date of Official Purchase Order in weeks (Preferred delivery within 12 weeks)
ITEM 11 – MANAGED compact PLUG & PLAY LAYER-2 SWITCH					
11.1	6	Device with 4 x Ethernet, 2 x RS 232, 2 x XDSL interfaces. DIN rail mounted	Each	R	
11.2	6	Device with 4 x Ethernet, 2 x RS 232 ,1 x XDSL, 1 x Optical SFP interfaces DIN rail mounted	Each	R	
11.3	6	Device with 4 x Ethernet, 2 x RS 232 ,2 x Optical SFP interfaces DIN rail mounted	Each	R	
11.4	6	Device with 4 x Ethernet, 2 x RS 232 ,1 x XDSL, 2 x Optical SFP interfaces DIN rail mounted	Each	R	
11.5	6	Device with 4 x Ethernet, 2 x RS 232 ,5 x XDSL interfaces DIN rail mounted	Each	R	
11.6	6	Device with 4 x Ethernet, 2 x RS 232 ,1 x XDSL, 4 x Optical SFP interfaces DIN rail mounted	Each	R	
11.7	6	Device with 4 x Ethernet, 2 x RS 232 ,2 x XDSL, 2 x Optical SFP interfaces DIN rail mounted	Each	R	
11.8	6	Device with 4 x Ethernet, 2 x RS 232 ,4 x Optical SFP interfaces DIN rail mounted	Each	R	

Section D -Batteries

Item No.	Refer To Spec Items	Description	Unit	Price Per Unit (Excl. VAT) (R)	Delivery Period from Date of Official Purchase Order in weeks (Preferred delivery within 5 weeks)
ITEM 12 – Batteries					
12.1	2.4.2.1	Batteries 48Volt Calcium 100 to 105 Amp Hours(4 x 12V)	Each	R	
12.2	2.4.2.1	Batteries 48Volt Lead acid Gel Pack 100 Amp Hours to 105aH (4 x 12V)	Each	R	

Pricing Instructions:

- 5.1 State the rates and prices in Rand unless instructed otherwise in the tender conditions.
- 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 Employer may also perform a risk analysis with regard to the reasonableness of such rates.**
- 5.7 Provide fixed rates and prices for the duration of the contract that are not subject to adjustment except as otherwise provided for in clause 17 of the Conditions of Contract and as amplified in the Special Conditions of Contract.
- 5.8 a) Price adjustment will apply for year two and year three for section A and section B and section C, and Section D as indicated in clause 17 of SCC and Schedule
- 5.9 Suppliers are required to quote on items per section as specified and can quote on all grouped sections or only on those grouped sections that they want to be considered for:.
- 5.10 As per price schedule, Section A, item 1.1 to 3.9 is to maintain, support and upgrade the existing SDH/PDH multiplexer and Network Management system and is grouped as one and all items must be tendered on. Section B Item 5.1 to 9.7 is grouped and is for a MPLS-TP multiplexer and NMS that is similar and equivalent to the existing installed mux. Section C Item 11.1 to 11.3 is grouped and all items must be priced. Section D. Item 12.1 to 12.3 is grouped and all items must be priced. Tenderers must price for all items in a section to be responsive. Sections will be awarded to the highest ranked responsive tenderer and a tenderer can be awarded all sections.
- 5.11 ADHOC Section A-Item 4 and Section B-Item 10 will not be included in the evaluation process but will be included as part of the offer of the successful bidder. Bidders are allowed to add additional lines to respective items if additional line items / equipment is offered as part of these sections

INITIALS OF CCT OFFICIALS		
1	2	3

C.5 SPECIFICATION(S)

STM 16/4/1 & MPLS-TP, FIBRE-OPTIC MULTIPLEXER, NETWORK MANAGEMENT SYSTEM & MANAGED COMPACT PLUG & PLAY LAYER-2 SWITCH

Section A.

To support, maintain, service, repair and extend the existing ABB Fox 515/615 SDH/PDH Multiplexer and Network Management System (NMS).

1. NETWORK MANAGEMENT SYSTEM (NMS)

This Specification provides for the supply and delivery of a STM 16/4/1 Fibre-Optic Multiplexer and extension and support of the existing Fibre-Optic Multiplexer Network Management System.

- 1.1 The Supplier shall provide additional licenses for the extension and support of existing management system.
- 1.2 The Supplier shall describe in writing the proposed extension and support of the existing Network Management System (NMS) on how it will interface with existing Network.
- 1.3 The communication network shall be managed by a NMS that covers Access- and Transport-level in an integrated way.
- 1.4 The Supplier must state costs for existing NMS maintenance contract agreement and shall be extended to cover all software upgrades on existing multiplexer network system.
- 1.5 The Supplier shall show how existing devices of the solution-family can be integrated. Further, the NMS shall comply with the following requirements:
 - The NMS shall offer easy operation and hierarchical geographical network representation for point & click operation.
 - A PC-based solution is preferred. The PC-based NMS shall support dual-view-display which allows to display the geographical network representation on a separate display.
 - A LINUX-based solution is preferred.
 - The Supplier shall explain in writing, how non-fibre-optic devices (e.g. teleprotection devices) can be managed and routed remotely with the proposed NMS.
 - The NMS shall support North-& South-bound SNMP-based interface for integration with other systems/devices.
 - The NMS shall support manual & auto-discovery functionality for network elements.
 - For local management, either Serial- or Ethernet – connection shall be possible.
 - The NMS operators shall be able to define criteria for alternative routing within the network. Should the main paths fail, the defined standby path shall be automatically activated.
 - For remote management, all of the following possibilities shall be possible:
 - Via TCP/ IP over LAN, connected to Management-port
 - Via TCP/IP carried in a user-defined LAN-WAN connection embedded in the payload of a connected STM-1 trunk
 - Via TCP/IP carried in a LAN-WAN connection embedded in the SDH – overhead - channels. (OSI tunneling)

2. STRUCTURE AND PREREQUISITES

The Supplier shall offer a communication solution that can be functionally split in 2 layers:

- Access S bus layer functionally with transport capacity up to STM-16.
- Broadband transport layer functionality with trunk capacities of STM-1 and higher.

The functionality of both layers shall be covered by the same solution – family and managed with one NMS (Network Management System). The solution offered shall belong to Next Generation Multiplexers for Utilities, with support of Ethernet-connectivity over SHD. TDM as well as Ethernet – services shall be handled by the same NMS.

Network with bandwidth needs up to STM-16 can be realized by implementing the access layer functionality with integrated transport.

Offered solution family shall have a track record of not less than 3 years with an overall installed base of not less than 250 (two hundred and fifty) nodes with at least 5 (five) networks of not less than 25 nodes.

The Supplier shall explain how existing installations of proposed solution can be NMS-wise integrated and capacity-wise upgraded.

2.1 GENERAL REQUIREMENTS

- 2.1.1** The equipment shall provide a range of access interfaces for telephony, data and LAN. Transport facilities shall include optical and electrical STM-1/STM-4/STM-16 SDH & ATM aggregate interfaces (155Mbit/s/622Mbit/s/2,5Gbit/s, and a range of PDH electrical interfaces.
- 2.1.2** The digital multiplex equipment shall be universal, software-controlled, and provide various interface cards to connect tributary interfaces signals such as voice, teleprotection and data to aggregate interfaces. On aggregate level 2Mbit/s electrical interfaces complying with ITU-T recommendations G.703 / G.704 interfaces shall be available. In addition, optical STM-1 aggregate interfaces on 155Mbit/s shall be available. All modules shall form an integrated part of a 19" shelf.
- 2.1.3** The platform shall have means to cross-connect, drop and insert VC 12 (with termination), 2Mbit/s G.703 unframed signals, and 2Mbit/s G.704 framed signals and individual 64kbit/s timeslots. Path protection on VC12, 2Mbit/s and 64kbit/s shall be supported.
- 2.1.4** For power system networks it shall be suitable for operation in substations with harsh environment with high electromagnetic interference, be highly reliable and provide secure communications for real time signals such as voice, SCADA, teleprotection and status/control signals. The equipment offered shall already be working successfully in telecommunication networks operated by power utilities. **Suppliers shall provide details of successful operation of the equipment offered.** It shall comply with the latest ITU-T recommendations and ETSI standards and be able to be interconnected with existing legacy multiplexer and other telecommunication equipment. (Schedule F 13).
- 2.1.5** For stations with teleprotection and telecommunication requirements, integrated teleprotection functionality (distance and differential protection) has to be provided. External mounted teleprotection equipment are not accepted.
- 2.1.6** For substation automation purpose, integrated electrical and optical Ethernet interfaces are required.
- 2.1.7** Each network element shall be manageable from an operation centre and there shall be means to supervise external/existing equipment. It must be possible to access the platform over a common TCP/IP network. Access over SDH OHC channel using the OSI protocol shall be possible.
- 2.1.8** To adapt transmission to higher bit rates, the equipment shall allow the integration into STM-4 or

STM16 networks by adding higher order SDH equipment.

2.1.9 Modules for the following user signals shall be available as plug-in units for the equipment:

- Analogue subscriber interface: subscriber FXS and exchange side FXO
- 4-wire E&M voice interface
- X.24/V.11 (RS422), Nx 64kbit/s data interface
- V.24/V.28 (RS232), data interface
- V.35, Nx 64kbit/s data interface
- RS485 data interface, 2-wire and 4-wire
- Programmable data interface V.24,/V.28, V.35, X.24/V.11
- 64 kbit/s CODIR electrical interface acc. to ITU-T G.703
- Alarm collection interface
- Teleprotection command interface
- Optical interface module for up to 4 protection relays compliant to IEEE C37.94
- Binary signal (status and control) interface
- 2 Mbit/s electrical interface for unframed signals acc. to ITU-T G.703 and framed signals acc. to G.703 and G.704 n x 2 Mbit/s electrical SHDSL ports for TDM services supporting copper pair bonding
- Ethernet interface 10/100/1000BaseT, electrical
- Ethernet Interface 100BaseFX and 1000BaseLX/SX, optical
- Support of L2 switching functions
- Support of L3 routing functions
- Support of Power over Ethernet
- Ethernet interface supporting Ethernet over SDH (EoSDH, GFP ITU-T G.7041 and LCAS ITU-T G.7042 functions)
- Ethernet interface supporting Ethernet over PDH (EoPDH, MLPPP functions)
- VoIP Interface

The equipment shall provide the following integrated aggregates:

- Up to 8 x STM-16 SDH optical ports
- Up to 16 x STM-4 SDH optical ports
- Up to 8 x STM-1 SDH optical / electrical ports
- Up to 4 x 10GE Ethernet optical ports
- N x 2 Mbit/s electrical E1 ports
- N x 2 Mbit/s SHDSL ports
- N x 1 GbE optical / electrical ports

2.2 Teleprotection Requirements

2.2.1 The Teleprotection and communication system has to ensure the easy and secure function of the teleprotection. Therefore following features have to be provided:

- At least an 8 bit command addressing for teleprotection signal shall be provided to prevent tripping if the signal is inadvertently re-routed through the telecommunication network.
- An automatic and periodic loop test (<100s) has to be provided for a signal delay measurement.
- A switch-over of the teleprotection command in less than 10 ms has to be guaranteed
- The configuration of the teleprotection has to be integrated into the communication configuration tool in order to ensure an easy maintenance
- More details on the requirement of the teleprotection features are defined under the Teleprotection Interface.

2.3 General Conditions

The equipment shall be capable of functioning as a terminal, in 'through connection' (transit, repeater) mode and as add-drop multiplex. First order multiplexing (2Mbps), second order multiplexing (8Mbps) and STM-1/4/16 multiplexing shall be integrated.

Conference for voice channels and point to multipoint function for data signals shall be possible. The equipment shall be of fully modular design.

2.4 Channel capacity: Digital Cross Connection

The equipment shall be equipped with redundant, decentralised cross-connection functions. The crossconnect capacity shall be at least 128 x 2Mbit/s (i.e. 3840 x 64kbit/s) and non-blocking. For high-density applications the cross-connect capacity shall be upgradeable up to 128x 2Mbit/s. It shall cross-connect 64kBit/s as well as 2Mbit/s (G.703 unframed and G.704 framed) and VC12. The cross-connect shall be capable of cross-connecting the SDH overhead with any 64kBit/s timeslot on the system.

On addition the equipment shall offer a high-order SDH cross-connect capacity of up to 128x128 VC-4 and a low order cross-connect for VC-3 and VC-12 in the same equipment with a capacity of up to 1008 x 1008 VC-12..

Furthermore, the design of the backplane shall provide direct GbE connectivity between the different slots and the central (redundant) Ethernet switching matrix slots. Between uplink slot positions a backplane capacity of $n \times 10$ GbE shall be available ($n > 2$). For future upgrade purposes a 10 GbE backplane connection from the central Ethernet switching matrix to x different slots shall be available ($x > 6$). The central switching matrix shall at least support 60 Gbit/s full duplex switching capacity.

2.4.1 Redundant centralized functionality

The equipment shall provide enhanced redundancy features in order to ensure highest availability of the communication network. The following redundancy schemes shall be supported:

- Redundant or distributed cross connect
- Redundant power feeding
- Redundant CPU functionality
- HW redundancy of SDH aggregate interfaces
- HW redundancy of GbE and 10 GbE aggregate interfaces
- HW redundancy of voice and data conferencing
- HW redundancy of central Ethernet switching matrix
- Enhanced TDM traffic protection schemes
- SNCP on 1 or 2 aggregate modules
- MSP on 1 or 2 aggregate modules
- Enhanced PSN traffic protection schemes
- 1+1 and 1:1 LSP protection switching
- Link aggregation on 1 or 2 aggregate modules
- xSTP and ERPS loop prevention

2.4.2 Power Supply

The multiplex equipment shall operate from a nominal 48Volt-dc battery with positive ground. The equipment shall work satisfactorily over battery voltage variations of $\pm 15\%$ (40.8 volts through 72 volts). The equipment shall support dual power feed (1+1 hardware protection) i.e. that two power sources can be connected directly to the equipment (two connection points) and 220v insulation transformer.

The equipment shall supervise the power source and provide corresponding alarming in case of loss of either power source. To support and Maintain the current SOS system.

2.4.2.1 Batteries

12v 100 to 105Ah High Cycle Battery
Threaded post - Left Hand Positive
Length: 331 mm
Width: 173 mm
Height: 241 mm
Weight: +/- 25.9 kgs

2.4.3 Safety

The equipment shall be safe to use and shall comply with EN 60950 class V1.

2.4.4 Electromagnetic compatibility and safety regulations

The equipment shall comply with the EN50022 class A, EN50082, IEC 801-2, IEC 801-6 and shall be conformant with CE.

2.4.5 Ambient Conditions

- Storage and transport: - 40+70°C; 98% (no condensation)
- Operation temperature range for operational applications: - 5°C up to 55°C, humidity of max. 95% (no condensation).

2.4.6 Mechanical construction

The equipment shall be available as a 19" shelf to be mounted in a 19" rack or 19" cabinet. It shall be of robust design. All tributary and aggregate units shall be integrated in the same shelf. All connectors shall be accessible from the front and comply with international specifications. The minimum cabinet depth required should also be stated.

2.4.7 Network configuration/management system

The Network Management System shall be used to supervise the PDH, SDH and teleprotection system. For teleprotection the configuration and management has to be fully integrated and comprehensive alarm information (severity and exact alarm description) shall be available in the same management system.

The network management system (NMS) shall have facilities to supervise, monitor, control and configure the network. It shall have capabilities of fault, configuration, performance and security management. It shall provide various views to the network such as geographical overview, logical network structure, and hierarchical view. The network management system shall allow defining different user profiles.

A comprehensive alarm management shall show current alarms such, that icons of the network elements change their colours according to the alarm level. The alarms shall be categorized as critical, major, minor alarms and of the warnings and a summary shall indicate the total number of them in the entire network. An alarm list shall list all alarms of the entire network according to the time of their occurrence. It shall be possible to filter alarms with various filter criteria. Operators shall be able to add comments to the alarms.

The NMS and the Network Element shall support connections over a TCP-IP based network.

The management system shall offer a SNMP interface for alarm integration into higher order networks. Can be browser based

2.4.8 Local User Terminal

It shall be possible to connect the craft terminal to any network element in the network using the TCP/IP protocol. The craft terminal shall support configuration, maintenance, and status information. It shall provide a 'windows' oriented user interface.

2.4.9 Path protection

The equipment shall provide means to protect 64kBit/s channels. The protection shall be end to end from one interface (telephone or data) to the other. It shall switch automatically from the main channel to the standby channel. It shall be configurable whether the system switches back to the main channel (reversible switching) or not (non-reversible).

If a path has switched to its standby route because the main route is disturbed this shall be indicated with an alarm. The switching shall be done within the multiplexer without using the Network Management System.

2.4.10 Section protection

The equipment shall provide means to protect STM-1 (MSP) and 8Mbit/s connections. It shall be possible to use two independent links: one as the main and the other as the standby. The system shall automatically switch to the standby connection and generate an alarm if the main connection is disturbed.

The switching shall be done within the multiplexer without using the Network Management System.

2.4.11 Network Topology

It shall be possible to build point to point, linear, ring, T, and meshed networks.

2.4.12 Synchronization

It shall be possible to synchronize the equipment using an external clock source, derived from a network or with an internal oscillator. The synchronization shall be configurable and it shall be possible to distribute the synchronization to other equipment as well. The system shall have the means of switching to select the synchronization source as well as a means of preventing the system from creating synchronization loops. The equipment shall be capable of selecting the source of synchronization by means of the SSM (Synchronization Status Messaging) feature according to ITU-T G.704 or priority a based sequence.

For teleprotection event recording it shall be possible to synchronize the clock of all teleprotection interfaces with one GPS in one station. The GPS time shall be distributed over the teleprotection channel.

2.4.13 Alarms

Each module shall supervise its functions and shall have an alarm-indication LED on its front. All alarms shall be collected by the NMS. Each node shall be capable of collecting up to 12 external alarms.

2.4.14 Test Loops

The equipment shall provide means to loop signals on 64kBit/s level as well as on 2Mbit/s level. It shall indicate an alarm if a loop is activated.

2.4.15 Maintenance facilities

Every Network Element shall have a built-in Signal Generator and Analyzer to analyze communication paths. It must be possible to connect the Generator and Analyser to the communication channels and terminate the signal on other Network Elements. It shall be possible to configure circuits locally with the craft terminal and remotely from the NMS or the craft terminal. It shall be possible to loop-back signals locally and remotely using the craft terminal or the NMS.

2.5 Requirements for Transport Level

2.5.1 SDH Aggregate Units

The interface shall be designed for use on single mode fibre (conforming to ITU-T G.652) at 1310nm and 1550nm.

2.5.1.1 The following main functions shall be supported:

- Termination of the OS-, RS-, MS- and VC-4 layer
- Extraction and insertion of the SOH communications information Through connections of VC-12 and VC-3

2.5.1.2 The following maintenance functions shall be supported:

- Status indications
- Loops
- Restart after ALS
- TTI monitoring
- BIP Error Insertion

2.5.1.3 The following SDH interfaces shall be available:

- STM-4/16 (622Mbit/s/2.5Gbit/s) optical 4-port interface
- STM-4 (622Mbit/s) optical 4-port interface
- STM-1/4 (/155Mbit/s/622Mbit/s) optical 4-port interface

2.5.1.4 This interface shall provide Multiples Section Protection (MSP):

- 1+1 Section Protection
- STM-1 (155Mbit/s) electrical 1-port interface

2.5.1.5 Furthermore optical ATM STM-1 interfaces at 1310nm and 1550nm shall be available.

2.5.1.6 The following main functions shall be supported:

Termination/generation of ATM cells using AAL1/CCS, AAL2/LES
Multiplexing and cross-connecting of ATM VCs/VPs

2.5.1.7 SFP's

Suitable SFP's to match offered equipment, as per price list. (Item 2.1.19 to 2.1.27)

2.5.2 PDH Aggregate Units

Up to four 8Mbit/s optical interfaces (1310nm and 1550nm) shall be available. Each interface shall provide at least 2 x 2Mbit/s (G.703) electrical interfaces and have an integrated switch matrix to convert the incoming optical stream directly into an electrical G.703 stream.

2.5.3 4-Wire Interface (VF interface)

This interface shall provide 8 voice channels with a bandwidth of 300 Hz - 3.4 kHz and 2 signaling channels (M => E, M' => E') per voice channel. Each interface shall be configurable to operate with or without CAS. With CAS it shall use the "a" and "b" bits for the two signalling channels.

2.5.3.1 The level shall be software adjustable within the following range:

- Input: +7.5 to -16dBr
- Output: +7.0 to -16dBr

- 2.5.3.2** Modules where each interface can be individually configured with 1+1 path protection shall be available.

2.5.4 Analogue Subscriber Interface

An interface with at least 10 subscribers as well as high-density analogue subscriber card with up to 30 subscribers shall be available. The ringing generator shall be integrated in the subscriber module interface. The ringer frequency shall be adjustable for 20Hz, 25Hz, and 50Hz. The following main functions shall be supported:

2.5.4.1 Downstream signaling:

- Ringing
- Metering
- Polarity reversal
- Reduced battery
- No battery

2.5.4.2 Upstream signaling:

- On/off-hook
- Pulse and DTMF dialling
- Flash impulse
- Earth key

2.5.4.3 General:

- Constant current line feeding
- Line test
- Permanent line checks
- CLIP (On-hook VF transmission)
- Metering after on-hook

2.5.5 Exchange Interface

- 2.5.5.1** This interface shall provide at least 10 ports for connection to remote analogue subscribers to an exchange. It shall provide the following functions:

- Pulse dialling
- Tone dialling (DTMF)
- Earth key function
- Metering function(12 kHz or 16 kHz)
- Flash impulse
- Polarity reversal
- Indication of busy lines

2.5.5.2 The following parameters shall be configurable by software:

- Input voice level -5 +4dBr
- Output voice level -7.5 -1dBr
- Metering pulse enable/disable
- Signaling bit definition
- Loop back of voice to the telephone

2.5.6 Party line Telephone System (Engineering Order Wire)

An engineering order wire (EOW) facility shall be provided at each multiplexer. Following options shall be available:

- The EOW shall be configured as a party line and use in band DTMF signaling to call another EOW-Terminal. The Terminal shall have an integrated DTMF decoder allowing to program

- a subscriber call number (1.4 digits), and two group call numbers (1.4 digits each).
- EOW based on Voice over IP (**VoIP**). The EOW traffic shall be routed over the management channel.

2.5.8 Serial DATA Interface

2.5.8.1 V. 24/V.28 RS232 Interface

It shall support the following bit rates:

0 to 0.3 kbit/s transp (V.110)

0.6 to 38.4kbit/s synchronous / asynchronous (V.110).

Modules where each interface can be individually configured with 1+1 path protection shall be available.

2.5.8.2 V.11/X.24 Interface

This interface shall comply to the ITU-T X.24 recommendation for signal definition and to V.11 for electrical characteristics.

It shall support the following bit rates:

48, 56, nx64kbit/s (n = 1 to 31) synchronous

0.6 - 38.4kbit/s synchronous / asynchronous (X.30)

Modules where each interface can be individually configured with 1+1 path protection shall be available.

2.5.8.3 V.35 Interface

This interface shall comply with the ITU-T V.35 and V.110 recommendations.

It shall support the following bit rates:

48, 56, nx64kbit/s (n = 1 to 31) synchronous

0.6 - 38.4kbit/s synchronous / asynchronous

Modules where each interface can be individually configured with 1+1 path protection shall be available.

2.5.8.4 V.36 / RS 449 Interface

This interface shall comply with the ITU-T V.36 and V.110 recommendations.

It shall support the following bit rates:

48, 56, nx64kbit/s (n = 1 to 31) synchronous

0.6 - 38.4kbit/s synchronous / asynchronous

Modules where each interface can be individually configured with 1+1 path protection shall be available.

2.5.9 64 K Bits Co – directional Interface

This interface shall comply with the ITU-T G.703 part 1.2.1 for co-directional data transfer. A module shall have at least 8 interfaces. Modules where each interface can be individually configured with 1+1 path protection shall be available.

2.5.10 10/100/1000 BaseT Ethernet Interface

A10/100/1000 BaseT interface shall be available. Following specification shall be covered:

- Ethernet connection: 10/100/1000 BaseT
- Switching: bypass mode for IEEE Std 802.3 frame or based on port or VLAN tag ID
- WAN capacity: >= 2.4Gbit/s (Ethernet over SDH)

- Logical WAN ports (LWP): minimum 32
- Option for Power over Ethernet shall be offered
- Framing: according General Framing Procedure GFP (ITU-T G.7041)
- Features: Virtual Concatenation (VCAT) acc. ITU-T G.707
- Link Capacity Adjustment Scheme (LCAS) acc. ITU-T G.7043

2.5.11 100/1000Base F Ethernet Interface

A100/1000BaseF interface shall be available. Following specification shall be covered:

- Ethernet connection: 100/1000BaseF
- Connectors: SFP technology
- Switching: bypass mode for IEEE Std 802.3 frame or based on port or VLAN tag ID
- WAN capacity: 63xVC-12 or 3xVC-3
- Logical WAN ports (LWP): minimum 8
- Framing: according General Framing Procedure GFP (ITU-T G.7041)
- Features: Virtual Concatenation (VCAT) acc. ITU-T G.707
- Link Capacity Adjustment Scheme (LCAS) acc. ITU-T G.7043

2.5.12 4 port Router Interface

On addition an Ethernet Router interface shall be available with following function:

- Ethernet connection Speed: minimum 10/100BaseT (IEEE 802.3-2005)
- Ethernet LAN interface according to IEEE 802.3
- Port Mode: Half & Full duplex
- TDM Bus port types: PO_nc/P12x/P12 (G.704 & G.703)
- TDM port Speed: 2048 kbit/s
- Number of TDM bus ports: 64 max
- Bridge function (OSI layer 2 forwarding) including VLAN MAC transparent bridging; IPV based MAC learning; RSTP; Multiple bridge instances; Optional star topology bridging
- Routing Function (OSI layer 3 forwarding) including static IP routing, OSPF2 V2, RIP V2
- Supported protocols: RFC 166 1/RFC 1990 /RFC 1638/ RFC 1332
- WAN protocols: PPP, Frame Relay (including RFC 1490)
- WAN capacity: 16 x 2Mbit/s

2.5.13 Alarm Interface

The module shall provide means to collect at least 12 external alarms, which shall be displayed on the Network Management System. It shall be used to supervise external equipment by the Network Management System. A minimum of 8 outputs, which can be switched by the Network Management System, shall be available. It shall be possible to connect an input to an output so that if an alarm occurs, the output contact will be switched.

Logical operations among alarm inputs shall be supported.

It shall be possible to label an alarm. The label-text shall be read from the interface module so that it can be indicated on the Network Management System as well as on the local craft terminal.

2.5.14 Teleprotection Interface

This interface shall provide means to transmit four bi-directional command channels.

The signals shall be adjustable from 24 to 250VDC by means of software.

All inputs and outputs shall be isolated and with EMC immunity for harsh environment Security,

Dependability and Transmission speed shall be selectable and programmable.

It shall be able to drop and insert commands, transfer commands as a transit station, it shall be possible to have AND- and OR-connections between commands. The interface shall support T-node configurations.

The Teleprotection interface shall provide an integrated non-volatile event-recorder, which shall be synchronizable either internally or by Global Positioning System (GPS) and a command counter, which counts trip commands.

The teleprotection interface shall provide means for signal delay measurement. 1+1 protection must be available; the switching shall be done within less than 4ms (typical value). The interface shall do automatic loop test periodically (preferably every 60s). The Supplier shall confirm that under no circumstances will the interface cause trip-commands in case of power supply failure or when equipment is put into or taken out of service.

Command addressing shall be used to prevent tripping if the signal is inadvertently re-routed through the telecommunication network.

2.5.15 Optical Protection Relays Interface

This interface shall have an optical port to connect protection relays for teleprotection to the multiplexer. It shall operate according IEC 870-5-1, format class FT 1.2 on 1300nm using MCM line coding.

2.5.16 Binary Contact Interface

This interface shall provide means to transmit binary signals.
The inputs and outputs shall be isolated.
The inputs shall be suitable for 24VDC to 60VDC. Outputs shall be solid-state relays.

The interface shall provide a 24VDC short circuit proofed auxiliary power supply. It shall be able to drop and insert commands, transfer commands, as a transit station and it shall be possible to have AND- and OR-connections between commands. The Binary Contact Interface shall be integrated with the Teleprotection interface and shall provide an integrated event recorder, which shall be synchronizable either internally or by GPS.

2.5.17 2Mbit/s G.703 / G.704 Interface

This interface shall comply with the ITU-T G.703 and G.704 recommendations.

The interface module shall have at least four interfaces, each of which may be individually activated. It shall be possible to have up to 126 x 2Mbit/s interface modules in a multiplexer.

In order to connect different equipment, the interfaces shall be available with the impedance of 120 ohms and 75 ohms. The interface shall support CRC-4 multi-frame according to ITU-T G.704 (enabled and disabled by software).

The CAS signaling according to ITU-T G.704 table 9 shall be activated optionally.

The interface shall be able to extract the 2.048MHz clock, which can be used to synchronize the multiplex equipment. The interface module shall support 2Mbit/s loop-back of the incoming signal as well as the loop-back of the internal signals.

2.5.18 Training

The successful Suppliers shall price on the pricing schedule the cost of providing training at a City of Cape Town Venue for a group of maximum six persons per session to enable the Electricity staff to install, program, maintain and operate the management multiplexers and associated equipment offered. The tendered cost shall include all travel and accommodation for the trainer as well as manuals.

2.5.19 45/47U cabinet

Height: 47U
 Width: 600mm
 Length: 600mm
 Color: Grey (Powder coated finish)
 Cabinet construction: High-quality cold rolled steel
 ETSI standard 19" front and rear vertical profiles (fully adjustable)
 Up to 600Kg static load capacity
 Integral electrical earth connection
 Lockable/removable front door (tempered glass) with integral slotted air vents
 Swing Handle Lock fitted to glass front door
 Removable side solid doors
 Removable rear solid door
 Front and rear doors are fully Reversible Keys supplied as standard
 Multiple cable entry (gland plates) in the base of the cabinet
 Vented Top Cover with 4 x 120mm (220v AC) cooling fans
 Extra 19inch shelf
 Bag of 50x cage nuts & bolts
 Adjustable feet or castors

Section B

To supply, a **MPLS-TP 1,10 Gb** node/multiplexer and related Network Management System (NMS) for use in High Voltage Substations and to support and maintain the existing MPLS-TP, XTRAN system.

3. NETWORK MANAGEMENT SYSTEM (NMS)

This Specification provides for the supply and delivery of a suitable MPLS-TP 1/10 Gb Network Management System and extension and support of such a Fibre-Optic Network Management System.

- 3.1** The Supplier shall provide additional licenses for the extension and support of the management system.
- 3.2** The Supplier shall describe in writing the proposed extension and support of the Network Management System (NMS).
- 3.3** The communication network shall be managed by a NMS that covers Access- and Transport-level in an integrated way.
- 3.4** The Supplier must state costs for NMS maintenance contract agreement and shall be extended to cover all software upgrades on the multiplexer network system.
- 3.5** Further, the NMS shall comply with the following requirements:
 - The NMS shall offer easy operation and hierarchical geographical network representation for point & click operation.
 - A PC-based solution is preferred. The PC-based NMS shall support dual-view-display which allows to display the geographical network representation on a separate display.
 - A Windows based or LINUX-based solution is required.
 - The Supplier shall explain in writing, how non-fibre-optic devices (e.g. teleprotection devices) can be managed and routed remotely with the proposed NMS.
 - The NMS shall support North-& South-bound SNMP-based interface for integration with other systems/devices.

- The NMS shall support manual & auto-discovery functionality for network elements.
- For local management an Ethernet connection shall be possible.
- The NMS operators shall be able to define criteria for alternative routing within the network. Should the main paths fail, the defined standby path shall be automatically activated in less than 50ms.
- Visual alarms to allow for fault detection and early warning of degraded performance.
- For remote management, all of the following possibilities shall be possible:
 - Via TCP/ IP over LAN, connected to Management-port
 - Via TCP/IP carried in a user-defined LAN-WAN connection embedded in the payload of a connected site and accessible from all connected sites.
 - Remote access via dial-up or GPRS/LTE modem or APN.
 - The management platform shall not be critical in the automatic protection switching of the network. It will only report the event in detail to the network operator.
 - Relevant configuration details shall be stored in nonvolatile memory of each node. After configuration, the network shall continue to work autonomously and shall reconfigure in error situations. It is therefore necessary that the reconfiguration algorithm resides in the nodes themselves

4. **STRUCTURE AND PREREQUISITES MPLS-TP and SDH/PDH Hybrid**

The equipment manufacturer shall provide a high capacity optical Ethernet telecommunication equipment that can support both backbone and access service locations, and is based on active nodes that are linked by Ethernet connections over fiber or other media, to form reliable and redundant high speed networks for the transparent transport of legacy TDM (SDH/PDH) and Ethernet based interface services.

The equipment shall be connection oriented and based on the MPLS-TP standard, implemented on a physical layer of Ethernet or on standard SDH/PDH standards

The installed system shall have the following characteristics:

- High Availability
- High Reliability
- Easy to install and operate
- Scalable
- High degree of flexibility with respect to the type of interfaces

The network equipment shall use automatic protection switching based on MPLS-TP or SDH/PDH and will ensure that any service switched to the protection path will provide symmetrical delays for each application that is time critical.

Protection switching that creates asymmetrical delays is not acceptable.

The entire telecommunication network(s) equipment will be managed from a central point via a sophisticated network management system with the mindset of a utility customer in mind.

Network with bandwidth needs up to 10 GB and the network system must be able to accommodate up to 40 GB if required.

The Offered solution family shall have a track record of not less than 3 years with an overall installed base of not less than 250 (two hundred and fifty) nodes with at least 5 (five) networks of not less than 25 nodes.

The Supplier shall explain how the proposed system will integrate with the existing installed SDH/PDH multiplexer system.

4.1 GENERAL REQUIREMENTS: MPLS-TP and SDH/PDH Hybrid

The network equipment shall allow creating networks of any topology. This includes ring topology; ring with spurs, meshed or linear operation. The network will be controlled via a centralized management system without a dynamic control plane to avoid complexity and non-deterministic behavior under fault conditions. At any given point in time it must be possible to identify the traffic flows of each individual application/service.

For power system networks it shall be suitable for operation in substations with harsh environment with high electromagnetic interference, be highly reliable and provide secure communications for real time signals such as voice, SCADA, tele protection and status/control signals. The equipment offered shall already be working successfully in telecommunication networks operated by power utilities. **Tenderers shall provide details of successful operation of the equipment offered.** It shall comply with the latest ITU-T recommendations and RFC standards.

All provisioning parameters for setting up the network, including initial configuration and discovery, must be organized via the network management systems. This network management system shall guide the operator via point and click wizards through the different steps of configuration of the individual network elements and services.

4.1.2 The digital multiplex equipment shall be universal, software-controlled, and provide various interface cards to connect tributary interfaces signals such as voice, teleprotection and data to aggregate interfaces.

All interface cards shall form an integrated part of a 19" shelf and no freestanding or add-on external devices will be allowed.

For stations with teleprotection and telecommunication requirements, integrated teleprotection functionality (distance and differential protection) has to be provided. External mounted teleprotection equipment are not accepted

4.1.3 The platform shall have means to cross-connect, drop and insert VC 12 (with termination), 2Mbit/s G.703 unframed signals, and 2Mbit/s G.704 framed signals and individual 64kbit/s timeslots. Path protection on VC12, 2Mbit/s and 64kbit/s shall be supported.

Each network element shall be manageable from an operation centre and there shall be means to supervise external/existing equipment. It must be possible to access the platform over a common TCP/IP network. Access using the OSI protocol shall be possible.

4.1.4 MPLS-TP system operation shall be based on MPLS-TP technology (RFC 5654), where active nodes are interconnected via Ethernet links. To optimize the network for packet traffic, Time Division Multiplexing as layer 1 technology is not allowed.

4.1.5 The different traffic flows over the network will be organized in pseudowires and tunnels. The network must support point-to-point and multipoint connections. In case of point-to-point connections it must be possible to create transparent connections for all protocols.

The network must allow transporting time division (TDM) oriented signals using circuit emulation. Traffic engineering of the network will be based on quality of service for each of the individual flows. Traffic flows will be identified at ingress side of the network as port based or VLAN based.

Protection of the services under fault conditions will be organized via automatic protection switching based on the MPLS-TP standard (RFC 6372). Fast reroute or proprietary protocols are not allowed. For optimization, it is allowed to create protection via alternative technologies but in that case, it must be a combination of existing public standards like ERPS (ITU G.8032) to allow interoperability with other parts of the network. In such a case these existing public standard protocols must run inside the MPLS-TP pseudowire infrastructure

4.1.6 For substation automation purpose, integrated electrical and optical Ethernet

interfaces are required.

4.1.7 Modules for the following user signals shall be available as plug-in units for the equipment:

- Analogue subscriber interface: subscriber FXS to either FXO or VoIP
- 4-wire E&M voice interface
- X.24/V.11 (RS422), Nx 64kbit/s data interface
- V.24/V.28 (RS232), data interface
- V.35, data interface
- X.21 data interface
- RS485 data interface, 2-wire and 4-wire
- 64 kbit/s CODIR electrical interface acc. to ITU-T G.703
- Alarm collection interface
- Optical interface module for up to 4 protection relays compliant to IEEE C37.94
- 2 Mbit/s electrical interface for unframed signals acc. to ITU-T G.703 and framed signals acc. to G.703.
- Ethernet interface 10/100/1000BaseT, electrical
- Ethernet Interface 100BaseFX and 1000BaseLX/SX, optical
- Support of L2 switching functions
- Support of L3 routing functions
- Support of Power over Ethernet

VoIP Interface The equipment shall provide the following integrated aggregates:

- Up to 4 x 10GbE Ethernet optical ports
- N x 2 Mbit/s electrical E1 ports
- N x 2 Mbit/s SHDSL ports
- N x 1 GbE optical / electrical ports

4.2 Teleprotection Requirements

The Teleprotection and communication system has to ensure the easy and secure function of the teleprotection. Therefore following features have to be provided:

SDH/PDH or Hybrid or MPLS-TP

The interface shall have at least two interfaces for C37.94 and at least two interfaces for E1/T1.

The interface shall comply with standards IEEE C37.94 for the C37.94 interfaces.

The interface shall be compliant with ITU-T G.703, Ansi T1.102 and ITU-T G.823 for the E1 interfaces.

The interface shall be compliant with ITU-T G.703, ANSI T1.102 (=ATIS 0900102.1993), T1.403 (=ATIS 0600403) and ITU-T G.824 for the T1 interfaces.

The C37.94 shall have optical levels compliant with the C37.94 interface, offered via SFP modules for easy replacement in case of a defect of the optical component.

The interface shall be able to loop the C37.94 data to an E1/T1 port on the same board. This function must be realized without circuit emulation.

The cards shall be able to transport the C37.94 interfaces and E1/T1 interfaces complete (all timeslots) or only the useful data via circuit emulation over the packet network according to SAToP (RFC4553) with configurable payload size and jitter buffer) or CESoPSN (RFC5063) with configurable packetization latency

The interface card shall at least have following status information via LED's on the front panel: Power input OK/NOK, Card status OK/NOK, Alarm Indication Signal detected (E1/T1 ports), Remote Defect Indication (C37.94 ports) and Loss of Signal detected

For MPLS-TP.

It shall be possible to protect the circuit emulation streams via the MPLS-TP protection techniques

but also in a hitless configuration with protection switching without packet loss. In case of the hitless switching, it must be possible to compensate the change in delay between active and backup path.

The card shall have the necessary port loopback, bit error testing and status information to diagnose the connections without going on-site.

4.3 General Conditions

The network nodes shall be of a modular design allowing the installation of additional modules or the replacement of modules.

The network nodes shall consist of a chassis, one or two hot swappable, redundant power supplies, slots for interface cards, and the system module.

The 19" chassis shall be available in three chassis sizes, small, medium and large.

The small chassis must have a minimum of 4 slots for required interface cards.

The medium chassis must have more than 4 and maximum 6 slots for required interface cards. The medium chassis must be Layer-3 capable.

The large chassis must have more than 6 and maximum 16 slots for required interface cards. The large chassis must be Layer 3 capable and support 40Gb or more, transport links.

The slots shall allow a mix of interfaces to be installed. Interface cards should be hot swappable.

Each of the Ethernet ports on the node must be configurable as access port (connection towards the application) or interconnection port (between network nodes).

The node shall support the entire temperature range without moving fans (no moving parts).

The chassis shall be 19" mountable and distinguishes itself through an industrial quality design. The network nodes shall be front access only.

The interface modules shall be easy to install. It must be possible to insert and remove interface cards during system operation.

To optimize the network design there shall be multiple chassis types available with different amount of slots and capacity.

The chassis shall have support for a minimum of two input and two output contacts to trigger a local alarm or to pick up a local alarm and forward it to the network management system.

4.4 Bandwidth/Channel capacity

SDH/PDH/Hybrid

The equipment shall be equipped with redundant, decentralised cross-connection functions. The cross-connect capacity shall be at least 128 x 2Mbit/s (i.e. 3840 x 64kbit/s) and non-blocking. For high-density applications the cross-connect capacity shall be upgradeable up to 128x 2Mbit/s. It shall cross-connect 64kBit/s as well as 2Mbit/s (G.703 unframed and G.704 framed) and VC12. The cross-connect shall be capable of cross-connecting the SDH overhead with any 64kBit/s timeslot on the system.

On addition the equipment shall offer a high-order SDH cross-connect capacity of up to 128x128 VC-4 and a low order cross-connect for VC-3 and VC-12 in the same equipment with a capacity of up to 1008 x 1008 VC-12..

Furthermore, the design of the backplane shall provide direct GbE connectivity between the different slots and the central (redundant) Ethernet switching matrix slots. Between uplink slot

positions a backplane capacity of $n \times 10$ GbE shall be available ($n > 2$). For future upgrade purposes a 10 GbE backplane connection from the central Ethernet switching matrix to x different slots shall be available ($x > 6$). The central switching matrix shall at least support 60 Gbit/s full duplex switching capacity

MPLS-TP

The system module shall combine two functions. It shall be the central control module in the node and perform the packet switching.

Every chassis shall be equipped with a central control and switching fabric that is responsible for the starting, terminating and passing through the label switched tunnels and pseudowires. The central switching fabric shall perform the function of Label Edge Router (starting and terminating tunnels) and Labels Switch Router (forwarding tunnels).

The system module shall have a display on the card allowing quick diagnostics.

The system module shall have a removable memory for easy replacement without reloading the system configuration.

The central switching fabric shall perform automatic protections switching according to MPLS-TP for 1:1 protection switching (supporting both revertive and non-revertive options) in sub 50ms via continuity check messages based on BFD.

The automatic protection switching shall be done via hardware support to achieve the necessary performance.

To allow the different services to be monitored, the system shall support OAM performance management based on ITU-T Y.1713 for delay and loss measurements.

The system module shall be available in two forms to allow a flexible network design.

It must be possible to interconnect nodes via one or more gigabit links and/or one or more 10 gigabit links. For capacity increase it must be possible to use multiple links between two nodes without upgrading the entire network.

The network nodes itself should have a minimal switching capacity of 60 Gbps or 700 Gbps where applicable.

The system must be easily upgradable to 40 gigabit Ethernet links.

4.4.1 Availability and Reliability

SDH/PDH and Hybrid

To ensure maximum system availability and minimum downtimes, special precautions must be taken on the system:

The equipment shall provide enhanced redundancy features in order to ensure highest availability of the communication network. The following redundancy schemes shall be supported:

- Redundant or distributed cross connect
- Redundant power feeding
- Redundant CPU functionality
- HW redundancy of SDH aggregate interfaces
- HW redundancy of GbE and 10 GbE aggregate interfaces
- HW redundancy of voice and data conferencing
- HW redundancy of central Ethernet switching matrix
- Enhanced TDM traffic protection schemes
- SNCP on 1 or 2 aggregate modules
- MSP on 1 or 2 aggregate modules
- Enhanced PSN traffic protection schemes
- 1+1 and 1:1 LSP protection switching

- Link aggregation on 1 or 2 aggregate modules
- xSTP and ERPS loop prevention

For TDM service, it must be possible to protect services in a 1+1 configuration without packet loss. In this configuration, there must also be the possibility to compensate the delay difference between the fastest path and the slowest path on the network to avoid that the TDM application has a jump in end-to-end delay when activating the backup path.

Dual hot swappable power supplies with separate power cords/connections is required

All common control and switching equipment required for full operation of the node or network should be fully redundant.

Configuration data shall be stored locally in every access node to ensure a quick restart after a power outage

The maximum reconfiguration time, in case of a node failure or cable break, shall not exceed 50 milliseconds for 1:1 protected services.

The database holding all relevant information on the system configuration shall be backed up in the network management system. If configuration data is lost in a particular node, the network management system must be able to restore the data remotely.

MPLS-TP

Protection switching for services based on automatic protection switching according to MPLS-TP. The back-up path will be activated automatically whenever a fault occurs on the active path. The active/backup scenario shall be predefined in the system with the network management system. This shall be done via point and click within the network management systems and should supersede any dynamic routing protocol to make the protection switching deterministic. The protection switching must all guarantee bidirectional protection switching to avoid differential delay. In the event a single fiber in a fiber pair is broken both transmit

To increase the reliability of the network it shall be possible to spread the links towards other nodes in the network over different interface cards. This must allow the replacement of an interface card without disconnecting the node completely from the network.

The high reliability shall be proven by submitting MTBF values of each individual module of the system, and by overall MTBF calculations of the system.

4.4.2 Power Supply

The multiplex equipment shall operate from a nominal 48Volt-dc battery with positive ground. The equipment shall work satisfactorily over battery voltage variations of $\pm 15\%$ (40.8 volts through 72 volts). The equipment shall support dual power feed (1+1 hardware protection) i.e. that two power sources can be connected directly to the equipment (two connection points). Switch mode. The equipment shall supervise the power source and provide corresponding alarming in case of loss of either power source.

4.4.3 Safety

The equipment shall be safe to use and shall comply with NEN-EN-IEC 60950- 1:2006.

4.4.4 Electromagnetic compatibility and safety regulations

The equipment shall comply with the EN50022 class B, EN61000-6-3 and shall be conformant with CE.

4.4.5 Ambient Conditions

- Storage and transport: - 30+75°C; 95% (no condensation)

- Operation temperature range for operational applications: - 30°C up to 65°C, humidity of max. 95% (no condensation).

4.4.6 Mechanical construction

The equipment shall be available as a 19" shelf to be mounted in a 19" rack or 19" cabinet. It shall be of robust design. All tributary and aggregate units shall be integrated in the same shelf. All connectors shall be accessible from the front and comply with international specifications. The minimum cabinet depth required should also be stated.

4.4.7 Network configuration/management system

The network shall be equipped with a user-friendly Linux or Microsoft Windows® based Network Management System (NMS). The NMS shall allow the operator to manage and monitor the entire network in an efficient way.

The NMS shall have the following functionality: network configuration, configuration of services, monitoring, diagnostics, activation-deactivation of interface modules, bandwidth allocation, alarms and event logging and graphical network representation.

The network management hardware shall consist of one or more server/computers, which at the time of installation is the current industry standard.

The NMS architecture shall be based on client-server technology. It must be possible to connect multiple active clients to the NMS server allowing network management from multiple and/or remote locations or by multiple users.

For reliability it must be possible to configure the NMS in a warm standby configuration.

The network management system (NMS) shall have facilities to supervise, monitor, control and configure the network. It shall have capabilities of fault, configuration, performance and security management. It shall provide various views to the network such as geographical overview, logical network structure, and hierarchical view. The network management system shall allow defining different user profiles.

A comprehensive alarm management shall show current alarms such that icons of the network elements change their colors according to the alarm level. The alarms shall be categorised as critical, major, minor alarms and of the warnings and a summary shall indicate the total number of them in the entire network. An alarm list shall list all alarms of the entire network according to the time of their occurrence. It shall be possible to filter alarms with various filter criteria. Operators shall be able to add comments to the alarms.

4.4.8 Local User Terminal

It shall be possible to connect the craft terminal to any network element in the network using the TCP/IP protocol. The craft terminal shall support configuration, maintenance, and status information. It shall provide a 'windows' oriented user interface.

4.4.9 Path protection

The equipment shall provide means to protect 64kBit/s channels. The protection shall be end to end from one interface (telephone or data) to the other. It shall switch automatically from the main channel to the standby channel. It shall be configurable whether the system switches back to the main channel (reversible switching) or not (non-reversible).

If a path has switched to its standby route because the main route is disturbed this shall be indicated with an alarm. The switching shall be done within the multiplexer without using the Network Management System.

4.4.10 Network Topology

It shall be possible to build point to point, linear, ring, T, and meshed networks.

4.4.11 Synchronization**SDH/PDH/Hybrid**

It shall be possible to synchronize the equipment using an external clock source, derived from a network or with an internal oscillator. The synchronization shall be configurable and it shall be possible to distribute the synchronization to other equipment as well. The system shall have the means of switching to select the synchronization source as well as a means of preventing the system from creating synchronization loops. The equipment shall be capable of selecting the source of synchronization by means of the SSM (Synchronization Status Messaging) feature according to ITU-T G.704 or priority a based sequence.

For teleprotection event recording it shall be possible to synchronize the clock of all teleprotection interfaces with one GPS in one station. The GPS time shall be distributed over the teleprotection channel.

MPLS-TP

For synchronization purposes, the central switching fabric shall support Sync-E. For time synchronization in packet applications, the system must support IEEE 1588v2 precision timing protocol in transparent clocking mode. In this case the time stamping must be done in hardware on the interface cards to guarantee maximum accuracy.

It shall be possible to synchronize the equipment using an external clock source, derived from a network or with an internal oscillator. The synchronization shall be configurable and it shall be possible to distribute the synchronization to other equipment as well.

4.4.12 Alarms

Each module shall supervise its functions and shall have an alarm-indication LED on its front. All alarms shall be collected by the NMS. Each node shall be capable of collecting up to 2 external alarms.

4.4.13 Test Loops

The equipment shall provide means to loop signals on 64kBit/s level as well as on 2Mbit/s level. Bit error testing and status information to diagnose the connections without going on-site.

4.5 Requirements for Transport Level**SDH/PDH****4.5.1 SDH Aggregate Units**

The interface shall be designed for use on single mode fibre (conforming to ITU-T G.652) at 1310nm and 1550nm.

4.5.1.1 The following main functions shall be supported:

- Termination of the OS-, RS-, MS- and VC-4 layer
- Extraction and insertion of the SOH communications information Through connections of VC-12 and VC-3

4.5.1.2 The following maintenance functions shall be supported:

- Status indications
- Loops
- Restart after ALS
- TTI monitoring
- BIP Error Insertion

4.5.1.3 The following SDH interfaces shall be available:

- STM-4/16 (2.5Gbit/s/622Mbit/s) optical 4-port interface
- STM-4 (622Mbit/s) optical 4-port interface
- STM-4/1 (622Mbit/s/155Mbit/s) optical 4-port interface

4.5.1.4 This interface shall provide Multiples Section Protection (MSP):

- 1+1 Section Protection
- STM-1 (155Mbit/s) electrical 1-port interface

4.5.1.5 Furthermore optical ATM STM-1 interfaces at 1310nm and 1550nm shall be available.

4.5.1.6 The following main functions shall be supported:

Termination/generation of ATM cells using AAL1/CCS, AAL2/LES
Multiplexing and cross-connecting of ATM VCs/VPs

4.5.2 PDH Aggregate Units

Up to four 8Mbit/s optical interfaces (1310nm and 1550nm) shall be available. Each interface shall provide at least 2 x 2Mbit/s (G.703) electrical interfaces and have an integrated switch matrix to convert the incoming optical stream directly into an electrical G.703 stream.

4.5.3 HDSL Trunk Units

The 2Mbit/s HDSL interface shall provide means to interconnect the multiplexer over two pairs of copper wire up to 10km using following modulations: CAP, PAM16 or G.SHDSL. It shall communicate either with another interface of the same type or with a remote desktop terminal.

4.5.3.1 HDSL Line Protection

The HDSL equipment shall (where necessary) be protected against influences of induced voltages up to 10 kV.

4.5.4 4-Wire Interface (VF interface)

This interface shall provide 8 voice channels with a bandwidth of 300 Hz - 3.4 kHz and 2 signaling channels (M => E, M' => E') per voice channel. Each interface shall be configurable to operate with or without CAS. With CAS it shall use the "a" and "b" bits for the two signaling channels.

4.5.4.1 The level shall be software adjustable within the following range:

- Input: +7.5 to -16dBr
- Output: +7.0 to -16dBr

4.5.4.2 Modules where each interface can be individually configured with 1+1 path protection shall be available.

4.5.5 Analogue Subscriber Interface

An interface with at least 10 subscribers as well as high-density analogue subscriber card with up to 30 subscribers shall be available. The ringing generator shall be integrated in the subscriber module interface. The ringer frequency shall be adjustable for 20Hz, 25Hz, and 50Hz. The following main functions shall be supported:

4.5.5.1 Downstream signaling:

- Ringing
- Metering
- Polarity reversal
- Reduced battery

- No battery

4.5.5.2 Upstream signaling:

- On/off-hook
- Pulse and DTMF dialing
- Flash impulse
- Earth key

4.5.5.3 General:

- Constant current line feeding
- Line test
- Permanent line checks
- CLIP (On-hook VF transmission)
- Metering after on-hook

4.5.6 Exchange Interface

4.5.6.1 This interface shall provide at least 10 ports for connection to remote analogue subscribers to an exchange. It shall provide the following functions:

- Pulse dialing
- Tone dialing (DTMF)
- Earth key function
- Metering function(12 kHz or 16 kHz)
- Flash impulse
- Polarity reversal
- Indication of busy lines

4.5.6.2 The following parameters shall be configurable by software:

- Input voice level -5 +4dBr
- Output voice level -7.5 -1dBr
- Metering pulse enable/disable
- Signaling bit definition
- Loop back of voice to the telephone

4.5.7 Party line Telephone System (Engineering Order Wire)

An engineering order wire (EOW) facility shall be provided at each multiplexer. Following options shall be available:

- The EOW shall be configured as a party line and use in band DTMF signaling to call another EOW-Terminal. The Terminal shall have an integrated DTMF decoder allowing to program a subscriber call number (1.4 digits), and two group call numbers (1.4 digits each).
- EOW based on Voice over IP (VoIP). The EOW traffic shall be routed over the management channel.

4.5.8 V. 24/V.28 RS232 Interface

It shall support the following bit rates:

0 to 0.3 k bit/s transp (V.110)
0.6 to 38.4kbit/s synchronous / asynchronous (V.110).

4.5.8.1 Modules where each interface can be individually configured with 1+1 path protection shall be available.

4.5.9 V.11/X.24 Interface

This interface shall comply to the ITU-T X.24 recommendation for signal definition and to V.11 for electrical characteristics.

- 4.5.9.1** It shall support the following bit rates:
 48, 56, nx64kbit/s (n = 1 to 31) synchronous
 0.6 - 38.4kbit/s synchronous / asynchronous (X.30)

- 4.5.9.2** Modules where each interface can be individually configured with 1+1 path protection shall be available.

4.5.10 V.35 Interface

This interface shall comply with the ITU-T V.35 and V.110 recommendations.

- 4.5.10.1** It shall support the following bit rates:

48, 56, nx64kbit/s (n = 1 to 31) synchronous
 0.6 - 38.4kbit/s synchronous / asynchronous

- 4.5.10.2** Modules where each interface can be individually configured with 1+1 path protection shall be available.

4.5.11 V.36 / RS 449 Interface

This interface shall comply with the ITU-T V.36 and V.110 recommendations.

- 4.5.11.1** It shall support the following bit rates:

48, 56, nx64kbit/s (n = 1 to 31) synchronous
 0.6 - 38.4kbit/s synchronous / asynchronous

- 4.5.11.2** Modules where each interface can be individually configured with 1+1 path protection shall be available.

4.5.12 64kBit/s Co-directional Interface

This interface shall comply with the ITU-T G.703 part 1.2.1 for co-directional data transfer. A module shall have at least 8 interfaces. Modules where each interface can be individually configured with 1+1 path protection shall be available.

4.5.13 10/100/1000 BaseT Ethernet Interface

A10/100/1000 BaseT interface shall be available. Following specification shall be covered:

- Ethernet connection: 10/100/1000 BaseT
- Switching: bypass mode for IEEE Std 802.3 frame or based on port or VLAN tag ID
- WAN capacity: ≥ 2.4 Gbit/s (Ethernet over SDH)
- Logical WAN ports (LWP): minimum 32
- Option for Power over Ethernet shall be offered
- Framing: according General Framing Procedure GFP (ITU-T G.7041)
- Features: Virtual Concatenation (VCAT) acc. ITU-T G.707
- Link Capacity Adjustment Scheme (LCAS) acc. ITU-T G.7043

- 4.5.13.1** On addition an Ethernet Router interface shall be available with following function:

- Ethernet connection: minimum 10/100BaseT
- Routing Protocols: static IP route, OSPF2 V2, RIP V2
- WAN protocols: PPP, Frame Relay (including RFC 1490)
- WAN capacity: 16 x 2Mbit/s
- WAN-ports > 60

4.5.14 100/1000BaseF Ethernet Interface

A100/1000BaseF interface shall be available. Following specification shall be covered:

- Ethernet connection: 100/1000BaseF
- Connectors: SFP technology
- Switching: bypass mode for IEEE Std 802.3 frame or based on port or VLAN tag ID
- WAN capacity: 63xVC-12 or 3xVC-3
- Logical WAN ports (LWP): minimum 8
- Framing: according General Framing Procedure GFP (ITU-T G.7041)
- Features: Virtual Concatenation (VCAT) acc. ITU-T G.707
- Link Capacity Adjustment Scheme (LCAS) acc. ITU-T G.7043

4.5.15 Alarm Interface

The module shall provide means to collect at least 12 external alarms, which shall be displayed on the Network Management System. It shall be used to supervise external equipment by the Network Management System. A minimum of 8 outputs, which can be switched by the Network Management System, shall be available. It shall be possible to connect an input to an output so that if an alarm occurs, the output contact will be switched.

Logical operations among alarm inputs shall be supported.

It shall be possible to label an alarm. The label-text shall be read from the interface module so that it can be indicated on the Network Management System as well as on the local craft terminal.

4.5.16 Teleprotection Interface

This interface shall provide means to transmit four bi-directional command channels.

The signals shall be adjustable from 24 to 250VDC by means of software.

All inputs and outputs shall be isolated and with EMC immunity for harsh environment. Security, Dependability and Transmission speed shall be selectable and programmable.

It shall be able to drop and insert commands, transfer commands as a transit station, it shall be possible to have AND- and OR-connections between commands. The interface shall support T-node configurations.

The Teleprotection interface shall provide an integrated non-volatile event-recorder, which shall be synchronisable either internally or by Global Positioning System (GPS) and a command counter, which counts trip commands.

The teleprotection interface shall provide means for signal delay measurement. 1+1 protection must be available; the switching shall be done within less than 4ms (typical value). The interface shall do automatic loop test periodically (preferably every 60s). The Supplier shall confirm that under no circumstances will the interface cause trip-commands in case of power supply failure or when equipment is put into or taken out of service.

Command addressing shall be used to prevent tripping if the signal is inadvertently re-routed through the telecommunication network.

4.5.17 Optical Protection Relays Interface

This interface shall have an optical port to connect protection relays for teleprotection to the multiplexer. It shall operate according IEC 870-5-1, format class FT 1.2 on 1300nm using MCMI line coding.

4.5.18 Binary Contact Interface

This interface shall provide means to transmit binary signals.
 The inputs and outputs shall be isolated.
 The inputs shall be suitable for 24VDC to 60VDC. Outputs shall be solid-state relays.

The interface shall provide a 24VDC short circuit proofed auxiliary power supply.
 It shall be able to drop and insert commands, transfer commands, as a transit station and it shall be possible to have AND- and OR-connections between commands. The Binary Contact Interface shall be integrated with the Teleprotection interface and shall provide an integrated event recorder, which shall be synchronisable either internally or by GPS.

4.5.19 2Mbit/s G.703 / G.704 Interface

This interface shall comply with the ITU-T G.703 and G.704 recommendations.

The interface module shall have at least four interfaces, each of which may be individually activated. It shall be possible to have up to 126 x 2Mbit/s interface modules in a multiplexer.

In order to connect different equipment, the interfaces shall be available with the impedance of 120 ohms and 75 ohms. The interface shall support CRC-4 multi-frame according to ITU-T G.704 (enabled and disabled by software).

The CAS signaling according to ITU-T G.704 table 9 shall be activated optionally.

The interface shall be able to extract the 2.048MHz clock, which can be used to synchronize the multiplex equipment. The interface module shall support 2Mbit/s loop-back of the incoming signal as well as the loop-back of the internal signals.

5 MPLS-TP**5.1 Requirements for Access Level****5.1.1** The following interfaces shall be available:

1. 1 Gigabit
2. 10 Gigabit
3. IP Routing
4. C37.94
5. E1/T1
6. Serial
7. 2W/4W E&M
8. SHDSL
9. G.703 Co Directional
10. Optical Low Speed
11. FXS
12. Suitable SFP's to match offered equipment, as per price list.(Item 7)
13. CPU interface to match offered equipment, price list item (Item 7)
14. Power supply interface to match offered equipment (Item 7)

All interface cards shall be configurable via the network management system.

5.1.2 Gigabit Interfaces

Via the Gigabit interfaces, it shall be possible to create different logical networks on the physical network.

It shall be possible to configure the user ports for separate operation, each over its own Ethernet service. It shall also be possible to assign a user port to more than one Ethernet service. In that case, it shall be possible to route traffic based on VLAN-IDs.

Each port shall support IEEE 802.3 compliant 10Base-T, IEEE 802.3u compliant 100Base-TX, or IEEE 802.3z compliant 1000Base-T twisted pair interfaces, with RJ-45 connector.

In case of fiber optic Ethernet ports the node must be able to support 100BASE and 1000BASE optical SFPs.

The system should at least provide the following status information: port status active/disabled, link up/down, activity of Ethernet traffic and function (access port or interconnection port) for easy diagnostics.

Each of the Ethernet port must be configurable as access port (to connect the application) or interconnection port (to interconnect network nodes).

It shall be possible to activate power over Ethernet based on the 802.3af and the 802.3at standards for each individual port.

All provisioned connections on the network shall have the possibility to interwork with control protocols or have the possibility of being transparent to them. In case the selection of transparency, the network realizes transparent transport of all protocols.

The interface card must be able to transport jumbo frames up to 9198 bytes.

When a port is used as interconnection port, the port must be capable of transporting synchronization via Sync-E.

For security reasons it must be possible to at least support following items:

- Shutdown unused ports
- Access control lists based on MAC address and IP address. Configuration of these access lists should be done via an automated procedure in the network management platform for ease of use.

MAC table size limiting to avoid denial of service attacks.

5.1.3 10 Gigabit Interfaces

Via the 10 Gigabit interfaces, it shall be possible to create different logical networks on the physical network.

It must be possible to use the interface on the board to connect applications or to interconnect network nodes.

It shall also be possible to assign a user port to more than one Ethernet service. In that case, it shall be possible to route traffic based on VLAN-IDs.

Each port shall support optical 10G connections via XFP optical modules.

The system should at least provide the following status information: port status active/disabled, link up/down, activity of Ethernet traffic and function (access port or interconnection port) for easy diagnostics.

Each of the Ethernet port must be configurable as access port (to connect the application) or interconnection port (to interconnect network nodes).

All provisioned connections on the network shall have the possibility to interwork with control protocols or have the possibility of being transparent to them. In case the selection of transparency, the network realizes transparent transport of all protocols.

The interface card must be able to transport jumbo frames up to 9198 bytes.

When a port is used as interconnection port, the port must be capable of transporting synchronization via Sync-E.

For security reasons it must be possible to at least support following items:

- Shutdown unused ports
- Access control lists based on MAC address and IP address. Configuration of these access lists should be done via an automated procedure in the network management platform for ease of use.
- MAC table size limiting to avoid denial of service attacks

5.1.4 IP Routing (Layer 3 operation)

In principle all Ethernet ports will be L2 Ethernet ports, creating L2 VPN's. In case L3 function is required, the implementation will be based on the use of a separate L3 routing interface card.

The routing interface card will be separated for the transport function for reliability and predictability of the network. The implementation will be done via L3 routing over MPLS-TP pseudowire infrastructure.

The L3 function will support unicast routing based on OSPF and multicast routing based on PIM-SM. For redundancy, VRRP will be available.

All functions shall be available via virtual routing functions to guarantee logical separation of the different routing functions (VRF). With this routing interface card it shall be possible to create L3 VPN's

Following performance shall be guaranteed by the L3 routing interface card.

Scalability Parameters	per VRF in router IFC	Total per router IFC
Total switching capacity		64 Gbps
Backplane capacity		14 Gbps
Front port capacity		18 Gbps
Extend front port capacity		18 Gbps
VRFs	1	64
L3-VLANs/ IP Interfaces	256	1K
ARP entries	2K	4K
OSPF Neighbors	256	1K
Unicast Routes	2K	12K
Multicast routes	1K	4K
VRRP instance		24
MAC addresses		16k
Multicast entries		1K
VLAN IDs		4K
ACL L2 and L3		798

For critical applications that require a separate routing hardware or in case of capacity extension it shall be possible to install multiple routing interface cards per node.

5.1.5 C37.94

The interface cards shall have at least two interfaces for C37.94 and at least two interfaces for E1/T1.

The interface card shall comply with standards IEEE C37.94 for the C37.94 interfaces.

The interface card shall be compliant with ITU-T G.703, Ansi T1.102 and ITU-T G.823 for the E1 interfaces.

The interface card shall be compliant with ITU-T G.703, ANSI T1.102 (=ATIS 0900102.1993), T1.403 (=ATIS 0600403) and ITU-T G.824 for the T1 interfaces.

The C37.94 shall have optical levels compliant with the C37.94 interface, offered via SFP modules for easy replacement in case of a defect of the optical component.

The card shall be able to loop the C37.94 data to an E1/T1 port on the same board. This function

must be realized without circuit emulation.

The cards shall be able to transport the C37.94 interfaces and E1/T1 interfaces complete (all timeslots) or only the useful data via circuit emulation over the packet network according to SAToP (RFC4553) with configurable payload size and jitter buffer) or CESoPSN (RFC5063) with configurable packetization latency.

It shall be possible to protect the circuit emulation streams via the MPLS-TP protection techniques but also in a hitless configuration with protection switching without packet loss. In case of the hitless switching, it must be possible to compensate the change in delay between active and backup path.

The card shall have the necessary port loopback, bit error testing and status information to diagnose the connections without going on-site. This functionality will be on top of the MPLS-TP OAM diagnostic tools offered.

The interface card shall at least have following status information via LED's on the front panel: Power input OK/NOK, Card status OK/NOK, Alarm Indication Signal detected (E1/T1 ports), Remote Defect Indication (C37.94 ports) and Los of Signal detected.

5.1.6 T1/E1 interfaces

The access nodes shall provide native T1 interfaces (1544 Mbps) compliant with ITU-T G.703, ANSI T1.102, T1.403 and ITU-T G.824.

The access nodes shall provide native E1 interfaces (2048 Mbps) compliant with ITU-T G.703, ANSI T1.102 and ITU-T G.823.

It shall be possible to select if the full T1/E1 frame is transported or only a subset of timeslots.

It shall be possible to combine different time slots of different packetized streams into a regenerated T1/E1 frame.

The T1/E1 data will be transported over the network via circuit emulation via SAToP (RFC4553) with configurable payload size and jitter buffer) or CESoPSN (RFC5086) with configurable packetization latency.

Each T1/E1 interface card shall be equipped with 4 ports.

It shall be possible to protect the T1/E1 circuit emulation streams via the MPLS-TP protection techniques but also in a hitless configuration with protection switching without packet loss. In case of the hitless switching it must be possible to compensate the change in delay between active and backup path in such a way that the end-to-end delay is not changed when switched from active to backup.

The T1/E1 interface card shall be able to provide clock to the network node for synchronization.

The card shall have the necessary port loopback, bit error testing and status information to diagnose the connections without going on-site. This functionality will be on top of the MPLS-TP OAM diagnostic tools offered.

The interface card shall at least have following status information via LED's on the front panel: Power input OK/NOK, Card status OK/NOK, Alarm Indication Signal detected and Los of Signal detected.

5.1.7 Serial

The interface cards shall at least have seven interfaces and must support following standards on the same card:

- RS232 synchronous and asynchronous
- RS422 synchronous and asynchronous
- RS485 asynchronous
- X.21

- V.35

When a port is configured in RS232/422/485 it will support baud rates from 1200 bps up to 115200 bps. In case a port is configured in synchronous mode the card will support nx64 kbps.

It shall be allowed to reduce the amount of interfaces on a card in advantage to support more control signals (like RTS, TCS, extra clocking), but the card shall support an optimized pin layout to maximize the amount of interfaces available.

The card must at least support four synchronous interfaces at the same time. It must be possible to support other asynchronous data interfaces on the other circuits to maximize the efficiency of the investment.

For each control signal (RTS, CTS,...) it must be possible to select if the data signal is transported, ignored or forced at a fixed level "1" or "0" to allow different applications to use the card in the most efficient mode.

The serial data and the corresponding control signals shall be transported over the MPLS-TP network via circuit emulation for point-to-point synchronous services and via serial to Ethernet for all other applications. The second mode must include the possibility to create setups with master and slaves for typical polling applications where multiple circuit emulation connections is not efficient.

In multipoint applications, it must be possible to make setups with two masters controlling a set of slaves without using more resources on the network. In this setup, the two masters must be able to communicate with the slaves and with each other. In the other directions, answers from slaves must go simultaneous to the two master stations.

The card shall have the necessary port loopback, bit error testing and status information to diagnose the connections without going on-site. This functionality will be on top of the MPLS-TP OAM diagnostic tools offered.

In case of master/slave operation, the card shall implement a method of continuous checking of the master can reach still all slaves and this during normal operation.

The interface card shall at least have following status information via LED's on the front panel: Power input OK/NOK, Card status OK/NOK, transmit activity, receive activity.

5.1.8 4-wire Voice

The access nodes shall provide native 4-wire analog voice interfaces compliant with ITU-T recommendations G.712.

The ports shall have E&M signaling functionality. Following types of signaling shall be possible: signaling Type II, Type III, type IV and Type V.

The ports shall be configurable in point to point and point to multipoint services. In the last case it shall be possible to connect up to 16 slaves to the master.

In multipoint configurations, the slaves shall implement a method to improve the signal quality and avoid addition of noise on the 4W channel.

The number of ports per cards shall at least 4 per interface card.

The 4W data shall be transported over the network via circuit emulation CESoPSN (RFC5086) with configurable packetization latency.

It shall be possible to groom several 4W services into an E1/T1 to avoid large amount of ports on the central site.

The card shall have the necessary port loopback, bit error testing and status information to diagnose the connections without going on-site. This functionality will be on top of the MPLS-TP OAM diagnostic tools offered.

The system shall provide the following status information: card active/inactive, card type, E&M status and connectivity with the corresponding interface cards in the service.

The interface card shall at least have following status information via LED's on the front panel: Power input OK/NOK, Card status OK/NOK.

5.1.9 SHDSL

The interface card shall have at least 4 ports for SHDSL compliant with EFMC (802.3ah - Ethernet First Mile on Cu) standard.

The SHDSL interfaces shall be compliant with ETSI TS 101 524.

The protection on the SHDSL interfaces shall be according to ETSI EN300386 / ETSI ES 201 468.

It shall be possible to connect CPE devices in a redundant way (dual homing) or a chain of CPE devices in a redundant way for reliability based on a standard Ethernet ring protocol. Preferred scenario is that the ring protocol interworks with the ring multipoint protocols on the MPLS layer.

The interface card shall at least have following status information via LED's on the front panel: Power input OK/NOK, Card status OK/NOK, Link status on each DSL circuit, Error status on each of the DSL links.

5.1.10 G.703 – Co Directional

The interface card shall have at least 4 ports for compliant with G.703 Co Directional.

The interfaces shall be complaint with ITU-T G.703 and ITU-T G.823.

The card shall offer ports via RJ connectors, 4 wire and 120 Ohm impedance.

It shall be possible to protect the G.703 Co-Directional circuit emulation streams via the MPLS-TP protection techniques but also in a hitless configuration with protection switching without packet loss. In case of the hitless switching it must be possible to compensate the change in delay between active and backup path in such a way that the end-to-end delay is not changed when switched from active to backup.

The card shall have the necessary port loopback, bit error testing and status information to diagnose the connections without going on-site. This functionality will be on top of the MPLS-TP OAM diagnostic tools offered.

The interface card shall at least have following status information via LED's on the front panel: Power input OK/NOK, Card status OK/NOK, Alarm Indication Signal detected and Los of Signal detected.

5.1.11 Optical Low Speed

The interface cards shall have at least two interfaces that support optical low speed asynchronous/ synchronous equipment and at least two interfaces for E1.

The optical interfaces shall support following speeds for asynchronous operation: 1200 / 2400 / 4800 / 9600 / 19200 / 38400 / 57600 / 76800 / 115200 / 297600 bps

The optical interfaces shall support 512 kbps framed structure for synchronous operation.

The interface card shall be compliant with ITU-T G.703, Ansi T1.102 and ITU-T G.823 for the E1 interfaces.

The card shall be able to loop the optical signal data to an E1port on the same board. This function must be realized without circuit emulation.

The cards shall be able to transport the optical data and E1 interfaces complete (all timeslots) via circuit emulation over the packet network according to SAToP (RFC4553) with configurable payload size and jitter buffer) or CESoPSN (RFC5063) with configurable packetization latency.

It shall be possible to protect the circuit emulation streams via the MPLS-TP protection techniques

but also in a hitless configuration with protection switching without packet loss. In case of the hitless switching, it must be possible to compensate the change in delay between active and backup path.

The interface card shall at least have following status information via LED's on the front panel: Power input OK/NOK, Card status OK/NOK, Alarm Indication Signal detected (E1 ports) and Los of Signal detected.

5.1.12 FXS

The interface card shall have at least 8 ports for POTS compliant with G.712.

The card shall convert these POTS into a VOIP telephone using SIP and G.711 coding.

The FXS ports shall be connected via a normal Ethernet service over the backbone to a VOIP PABX.

The card shall support:

- DTMF in-band dialing (overlap dialing) and RFC 2833 packets AVT for RTP/SIP INFO.
- Caller ID Display/Generation, CLIP (Calling Line Information Protocol): DTMF & FSK (Belcore)

The interface card shall at least have following status information via LED's on the front panel: Power input OK/NOK, Card status OK/NOK, Alarm Indication Signal detected and Los of Signal detected.

5.2 Training

The successful Supplier shall price on the pricing schedule the cost of providing training at a City of Cape Town Venue for a group of maximum six persons per session to enable the Electricity staff to install, program, maintain and operate the management nodes and associated equipment offered. The tendered cost shall include all travel and accommodation for the trainer as well as manuals.

6 MANAGED compact PLUG & PLAY LAYER-2 SWITCH.

This Specification provides for the supply and delivery of a group of devices, which are designed as multilayer switches and multifunction devices especially adjusted to the characteristics of telecontrol communication. The devices are used in next generation energy networks, for remote meter reading, remote monitoring and control with regard to renewable energies as well as smart grids.

6.1 General requirements.

- The communication network shall be managed by a Network Management System (NMS) that covers Access- and Transport-level in an integrated way.
- A PC-based solution is preferred.
- The NMS shall support North-& South-bound SNMP-based interface for integration with other systems/devices.
- The NMS shall support manual & auto-discovery functionality for network elements.
- For local management, either Serial- or Ethernet – connection shall be possible.
- The NMS operators shall be able to define criteria for alternative routing within the network. Should the main paths fail, the defined standby path shall be automatically activated.
- For remote management, all of the following possibilities shall be possible:

- Via TCP/ IP over LAN
- Via TCP/IP carried in a user-defined LAN-WAN connection embedded in the payload

6.2 STRUCTURE AND PREREQUISITES

6.2.1 GENERAL REQUIREMENTS

- The equipment shall provide a range of access interfaces for: telephony (FXS/O capabilities preferred, but not compulsory),
- data/LAN(4 x layer-2 switch with auto negotiating Fast Ethernet RJ45-ports with auto MDI/X, Spanning tree protocol and VLANs-IEEE 802.1Q),
- serial interfaces (2 x RS 232 for tunneling serial telecontrol protocols).
- Transport facilities shall include optical (SFP-single mode up to 15/20kms 1310/1550nm) and copper electrical(XDSL over existing copper lines),

6.2.2 The equipment shall be universal, software-controlled & in a compact case without movable parts(component itself, Ethernet ports, XDSL connections, RS-232 interfaces and the SFP transceivers should be hot-plug capable) for easy installation, SFPs to be supplied with unit.

6.2.3 All ports of the device can be disable/enabled by configuration. Furthermore, the speed and duplex setting of any port can be set according to its capabilities (10/100Mbps, Full/half duplex for Ethernet ports and 192kbps up to 11Mbps or more in steps for XDSL ports).

6.2.4 These qualities highlight the family as ideal transmission technology for telecontrol communication using IEC 60870-5-104, IEC 61850 or IEC 60870-5-101.

6.2.5 For power system networks it shall be suitable for operation in High voltage substations with harsh environment with high electromagnetic interference, be highly reliable and provide secure communications for real time signals such as voice, SCADA, teleprotection and status/control signals. The equipment offered shall comply with the latest ITU-T recommendations and ETSI standards and be able to be interconnected with legacy multiplex and other telecommunication equipment

6.2.6 Each network element shall be manageable from an operation centre and there shall be means to supervise external/existing equipment. It must be possible to access the platform over a common TCPIP network, via browser based dedicated software.

6.2.7 Supported protocols:

- IEEE 802.3/802.3u(10Base-T/100Base-TX) for Ethernet
- ETSI TS 101 524(SDSL) and ITU-T G.991.2(SHDSL)
- IEC 60870-5-101 and -104 integration and conversion/Telecontrol equipment
- Telnet, Secure Shell (SSH) and Web interface for remote management
- SNMP (Simple Network Management Protocol)
- Syslog for central logging of events.
- HTTP for easy configuration using integrated webserver
- IEEE 802.1D and IEEE 802.1 QRSTP(Rapid- and Multiple-Spanning-Tree-Protocol)
- IEEE 802.1X Network access control

6.3 General Conditions

6.3.1 Power Supply

- The equipment shall operate from a nominal wide area power supply (20-72VDC or 24-60VDC).

6.3.2 Safety

- The equipment shall be safe to use and shall comply with EN class V1.

6.3.3 Electromagnetic compatibility and safety regulations

- The equipment shall comply with the EN50022 class A, EN50082, IEC 801-2, IEC 801-6 and shall be conformant with CE.

6.3.4 Ambient Conditions

- Storage and transport: - 25+70°C; 95% (no condensation)

6.3.5 Mechanical construction

Equipment shall be housed in a compact case without movable parts of robust design on DIN Rail or similar.

6.3.6 Network configuration/management system

In order to enable remote monitoring the devices need to support management tools like Syslog, SNMP, SSH, Telnet as well as an integrated webserver for easy device access, along with extensive self-monitoring functions, supervising for e.g. signal quality on copper & fiber optic cable. By default, each unit should have a default IP address for configuration of the switch with a subnet mask! SSH connections for configuration purposes need to be acceptable through any interface.

The devices' support to build redundant structures like rings and/or backup routes enables high network availability.

The network management system (NMS) shall have facilities to supervise, monitor, control and configure the network. It shall have capabilities of fault, configuration, performance and security management. It shall provide various views to the network such as geographical overview, logical network structure, and hierarchical view. The network management system shall allow defining different user profiles.

A comprehensive alarm management shall show current alarms such, that icons of the network elements change their colors according to the alarm level. The alarms shall be categorized as critical, major, minor alarms and of the warnings and a summary shall indicate the total number of them in the entire network. An alarm list shall list all alarms of the entire network according to the time of their occurrence. It shall be possible to filter alarms with various filter criteria. Operators shall be able to add comments to the alarms.

The NMS and the Network Element shall support connections over a TCP-IP based network. The management system shall offer a SNMP interface for alarm integration into higher order networks.

6.3.7 Local User Terminal

It shall be possible to connect the craft terminal to any network element in the network using the TCP/IP protocol. The craft terminal shall support configuration, maintenance, and status information. It shall provide a 'windows' oriented user interface.

6.3.8 Path protection

The equipment shall provide means to protect traffic via RSTP or turbo ring.

6.3.9 Network Topology

It shall be possible to build point to point, linear, ring, T, and meshed networks via Optic, copper or a mix of both.

6.3.10 10/100 BaseT Ethernet Interface

A10/100 BaseT interface shall be available. Following specification shall be covered:

- Ethernet connection: 10/100 BaseT
- Switching: bypass mode for IEEE Std 802.3 frame or based on port or VLAN tag ID
- Ring protection

6.3.11 Pots Telephone interface

- Used to extend an analogue telephone extension via the units
- Physical connection of RJ 11 type or similar
- Similar pots service, possibly VOIP to POTS converter

6.3.12 Preferred unit or Equivalent

- Tried & tested similar units from MOXA & ABB or any similar equivalent units.
- If preferred or equivalent units are tendered for, please supply full brochure with complete technical details.
- Note that it is a requirement that full operating, programming and installation manuals are provided from the OEM.
- Technical support must be available for the duration of the tender and beyond.
- Full warranty and training manual and support detail must be submitted with the tender.

6.3.13 Required Device types

- Device with 4 x Ethernet, 2 x RS 232, 2 x XDSL interfaces
- Device with 4 x Ethernet, 2 x RS 232 , 1 x XDSL, 1 x Optical SFP interfaces
- Device with 4 x Ethernet, 2 x RS 232 , 2 x Optical SFP interfaces
- Device with 4 x Ethernet, 2 x RS 232, 5 x XDSL interfaces
- Device with 4 x Ethernet, 2 x RS 232 , 1 x XDSL, 2 x Optical SFP interfaces
- Device with 4 x Ethernet, 2 x RS 232 , 4 x Optical SFP interfaces
- Device with 4 x Ethernet, 2 x RS 232 , 1 x XDSL, 4 x Optical SFP interfaces
- Device with 4 x Ethernet, 2 x RS 232 , 2 x XDSL, 2 x Optical SFP interface

6.4 IEC 61850 Ethernet switch

This switch can be populated with 10/100/1000Base T and/or 10/100/1000Base F Gigabit Ethernet (GbE) combo interfaces. The unit must come with redundant AC or DC Power Supplies and must be designed and tested to work in the electrical substation environment. Compatible to be **visible on the existing FOXMAN (Linux) system and manageable with SNMP** capability.

6.5 IEC 61850 Ethernet switch (MPLS-TP)**6.5.1 Feature Highlights**

- MPLS-TP network node with 10 Ethernet ports
- WAN ports (MPLS-TP):
 - 2x 1/10Gbps SFP+
 - 2x 1Gbps SFP
- LAN port (L2/L3):
 - 2x 1Gbps SFP
 - 4x Gigabit RJ-45 ports with PoE+
- PoE: IEEE 802.3af & 802.3at compliant with maximum 30 W per port
- Service types: E-Line, E-LAN, Logical ring
- 2x serial ports (RS232/422/485)
- 2x DIO
- MACsec encryption possible on WAN links
- Ptp 1588 & Sync-E support
- Fully managed Network Management System
- DIN rail mountable Aluminum Housing
- SD card for easy configuration swap
- Fanless design, passively cooled
- Operating temperature range:

- -30°C to +65°C
- (-22°F to +149°F), startup @ -20°C/-4°F
- Redundant Power input (24-57VDC)
- Compliance with IEC 61850, IEEE 1613 (Power substation),

6.5.2 **Serial interfaces:**

Two serial interfaces (S1 & S2) for the connection of legacy applications.

The S1 and S2 ports can be configured either as RS232, RS422 or RS485. In RS232 mode TX, RX, CTS & RTS are supported, in RS422/485 mode TX & RX are supported. The serial interface is suitable for asynchronous communication.

Inside these serial interfaces are converted to Ethernet frames for transport over the MPLS-TP network.

6.5.3 **Digital Input / Digital Output (DI/DO)**

Provides two Digital Inputs (DI1 & DI2) and two Digital Outputs (DO1 & DO2).

The Digital Inputs can be used to detect external events (e.g. cabinet door contact opening) and raise an appropriate alarm (e.g. 'door opened') in NMS. Alarm properties can be as-signed to the digital inputs via NMS.

The Digital Outputs can be used to give a local indication of Major and Minor alarms (e.g. by means of external alarm lights or acoustic signals).

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7.2.3 **Mechanical Design**

A DIN rail mountable device.

The fanless design is passively cooled and allows it to operate in a wide temperature range from -30°C to +65°C (-22°F to +149°F). Cold start is possible at -20°C/-4°F.

To allow natural convection cooling, the node is equipped with heatsinks on both sides.

The housing is IP20 and above rated.

6.5.4 **Power Supply**

Provides a redundant power input of 2x (24-57VDC).

When the input voltage is in the 50-57VDC voltage range, the PoE capability of the node can be enabled on certain ports. The unit should be a power sourcing device that is compliant with IEEE 802.3af (PoE) and IEEE 802.3at (PoE+, maximum 30 W per port).

If no DC power is available, an external PSU can be used.

6.5.5 **SFP (Small Form factor Pluggable) Transceivers**

Should have at least 6 Gigabit Ethernet SFP ports that can be equipped with different types of 1000 Base SFP transceivers for Single Mode fiber operation.

Certain ports can optionally be used for 10Gbps SFP+ transceivers to create 10 Gigabit Ethernet MPLS-TP WAN links or LAN connections.

6.5.6 **SD Card**

The configuration of the node is stored on an SD memory card. When the device needs to be replaced in the field, the SD card can be swapped to the new device to automatically copy all the configuration data.

6.5.7 **NETWORK TOPOLOGY**

Different network topologies can be built with the nodes including daisy chain, star, ring or mesh topologies.

Nodes can be used to build a stand-alone network, or they can be used as an MPLS access network in combination with modular nodes such as aggregation nodes or core nodes.

Typically ports 1&2 are used for WAN links to create an MPLS-TP ring of 1Gbps or 10Gbps. Ports 3&4 can also be used as MPLS WAN ports to link to other rings or spur nodes. In this way it is possible to create a fully meshed topology. Alternatively, unused WAN ports (ports 1-4) can be converted to LAN ports that offer basic L2 connectivity.

6.5.8 NETWORK MANAGEMENT

Can be fully managed via the existing TXCare (or equivalent) Network Management System. When used as a stand-alone network, the server can be connected to the management port of one of the nodes to allow centralized management. If used as an access network interconnecting to modular nodes, the nodes can be managed via the encrypted DCN channel embedded in the WAN link.

7. COMPLIANCE OR NON-COMPLIANCE WITH SPECIFICATION

Supplier shall submit a schedule listing clause-by-clause specific details indicating compliance or non-compliance with the requirements of the specification.

8. AUTHORISATION LETTER

Where the Supplier is not the manufacturer of the product offered, Supplier must be an accredited agent with the manufacturer of the multiplexer network management system offered. Proof in the form of an authorization letter from the manufacturer must be submitted.

9. ENGINEERING SUPPORT

Supplier must provide engineering back-up support of the product offered within RSA. Details of the local office (address Local/National) to be listed on Schedule F.13G.

10. SCHEDULE OF TECHNICAL PARTICULARS

Suppliers are required to complete relevant Schedule F.13A, 13B, 13C: Schedule of Technical Particulars attached to the tender document in full and provide details of the items tendered.

11. SAMPLES

During evaluation, the cct may request, a sample of the equipment offered for inspection and compatibility test purposes. To test for compatibility with the existing installed multiplexer systems.

12. TRADE NAMES OR PROPRIETARY PRODUCTS

Suppliers 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".

13. 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.

14. FORMS FOR CONTRACT ADMINISTRATION

The Supplier shall complete, sign and submit with each invoice, the following:

- a) 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 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, proof of attendance in the form of attendance register 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 Tenderer 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 of the equipment, machinery, materials, services, products, consumables, etc. that the Tenderer 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 ‘Tenderer’ 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 Tenderer 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 Tenderer, 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 Tenderer 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 Tenderer 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 Tenderer hereby consents to such amounts being deducted from any payment due to the Tenderer.
- 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 Tenderer.

- 3.6.2 Make payment to the Tenderer 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 Tenderer.
- 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 Tenderer including any relevant advice to assist the Tenderer to understand the Contract.
- 3.6.6 Grant or refuse any extension of time requested by the Tenderer 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 Tenderer 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 Tenderer 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 Tenderer, 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 Tenderer's permission to copy it for such use. Where copyright is vested in the Purchaser, the Tenderer 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 Tenderer 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 Tenderer and paid for by the Purchaser shall, after payment, vest with the Purchaser.

- 5.6 **Publicity and publication**
The Tenderer 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 Tenderer acknowledges that it shall not acquire any right, title or interest in or to the Intellectual Property of the Purchaser.
 - 5.8.2 The Tenderer 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 Tenderer 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 Tenderer 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 Tenderer 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 Tenderer 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 Tenderer 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 Tenderer and no copies thereof shall be retained by the Tenderer 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 Supplier 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 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 exists 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 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 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 12 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

16.3 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.

Advance Payments: NOT APPLICABLE

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.

- 17.4 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 not 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 relieve 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: **In the event that the actual delivery period for goods ordered in**

terms of this tender exceeds the tendered delivery period, a penalty of 2% per week or part thereof of the value of the overdue goods will be imposed. No such penalties shall exceed 10% of the value of the overdue goods concerned.

- 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 *stipulatio 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))

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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

Letterhead of supplier’s Insurance Broker

Date _____

CCT
City Manager
Civic Centre
12 Hertzog Boulevard
Cape Town
8000

Dear Sir

TENDER NO.: 229G /2023/24

TENDER DESCRIPTION: Supply and delivery of STM 16/4/1 & MPLS-TP fibre optic multiplexer and extension and support of existing multiplexer network management system

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



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 certified 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

BENEFICIARY DETAILS AND WORK INFORMATION

CITY OF CAPE TOWN
ISIXEKO SASEKAPA
STAD KAAPSTAD

CONTRACT OR WORKS PROJECT NUMBER:				Year			Month		Sheet			
									1 of			

No.	(8) First name	(8) Surname	(8) ID number	(9) New Beneficiary (Y/N)	Gender (M/F)	Disabled (Y/N)	(10) Job seeker database (Y/N)	Contract start date (DDMMYY)	(11) Contract end date (DDMMYY)	(12) No. days worked this month (excl. training)	(13) Training days	(14) 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
Firststrand 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

F.1: Contract Price Adjustment and/or Rate of Exchange Variation

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):

	<u>Indicate option</u>	<u>CPA Type</u>	<u>Period</u>	<u>Refer to Section</u>
A	<input checked="" type="checkbox"/> N/A	FIRM PRICES as per Pricing Schedule	Annual	<i>Pricing Schedule C.4 and Schedule F.1 (A)</i>
<u>LOCAL (RSA) TENDER CONTENT:</u>				
EITHER				
B	<input type="checkbox"/> N/A	SEIFSA Index based CPA	Monthly / Quarterly	<i>Schedule F.1 (B)</i>
OR				
C	<input type="checkbox"/>	Pricelist/ Quotation Based CPA	Ad-Hoc	<i>Schedule F.1 (C)</i>
OR				
D	<input type="checkbox"/> N/A	STATS SA CPI Index Based CPA	Annually	<i>Schedule F.1 (D)</i>
OR/AND				
E	<input type="checkbox"/> N/A	Sectorial Determination 1:Contract Cleaning Sector	Annually	<i>Schedule F.1 (E)</i>
OR				
E	<input type="checkbox"/> N/A	Sectorial Determination 6: Private Security Sector	Annually	<i>Schedule F.1 (E)</i>
<u>IMPORTED GOODS AND / OR COMPONENTS (IF APPLICABLE)</u>				
F	<input type="checkbox"/>	ROE based CPA	Ad-Hoc	<i>Schedule F.1 (F)</i>
AND (IF REQUIRED), EITHER				
G	<input type="checkbox"/>	Pricelist / Quotation based CPA	Ad-Hoc / Periodic	<i>Schedule F.1 (G)</i>

		OR		
H	N/A	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:
- By letter to: Director Energy , City of Cape Town,
P O Box 655, Cape Town, 8000 or
 - By email to:
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.

Or

Unless indicated otherwise in the relevant schedule below, the adjustment will apply to all Purchase Orders or Purchase Order lines where the delivery date is on or after the effective date of the adjustment.

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

Manufacturer/ Supplier Name	Price List Information		
	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: _____ (B)	Price as per new Supplier/Manufacturer Price List (Excl. Vat) Price List Date: _____ (C)	Difference between the previous and new manufacturer Price list (C)-(B) (D)	
	(A)						(A)+(D)

**When submitting the first request for price adjustment, use the tender price as per C.4 Price Schedule.*

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

[illegible]

[illegible]

* *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: The Bill of Lading/Waybill/Customs Invoice (clearly indicating the items as identified on the purchase order).
 - a) 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.
 - b) 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. Manufacturer's / Supplier's Pricelist / Quotation Based CPA – Imported Goods or Components:

- 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

Manufacturer/ Supplier Name	Price List Information		
	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:
- 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.
 - 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)

2. Supplier Price List Variations for Suppliers Supplying Goods Imported by Another Part

- 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 a 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

Manufacturer/ Supplier Name	Price List Information			
	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 of the documentation indicated below a minimum of seven (7) days from date of purchase order:
- 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.
 - 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.
 - 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.

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:
On behalf of the tenderer (duly authorised)

Date

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 80/20 system for requirements with a Rand value of up to 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 80/20 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	80
SPECIFIC GOALS	20
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 80/20 PREFERENCE POINT SYSTEMS**

A maximum of 80 or 90 points is allocated for price on the following basis:

80/20

Where

Ps = Points scored for price of tender under consideration

Pt = Price of tender under consideration

Pmin = Price of lowest acceptable tender

4. FORMULAE FOR DISPOSAL OR LEASING OF STATE ASSETS AND INCOME GENERATING PROCUREMENT**POINTS AWARDED FOR PRICE**

A maximum of 80 or 90 points is allocated for price on the following basis:

80/20

Where:

Ps = Points scored for price of tender under consideration

Pt = Price of tender under consideration

Pmax = Price of highest acceptable tender

5. POINTS AWARDED FOR SPECIFIC GOALS

5.1 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:

5.2 In cases where organs of state intend to use Regulation 3(2) of the Regulations, which states that, if it is unclear whether the 80/20 or 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 (80/20 system)	Number of points claimed (80/20 system)
Gender	5	
Race	5	
Disability	3	
Promotion of Micro and Small Enterprises	7	

DECLARATION WITH REGARD TO COMPANY/FIRM

5.3 Name of company/firm.....

5.4 Company registration number:

5.5 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]

5.6 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.

<i>Signature of Tenderer</i>	<i>Date</i>	<i>Name and Surname</i>	<i>Address</i>

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 state¹, 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 or 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, shareholder²): _____
 - 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, principle 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, principle 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

Print name:

Date

On behalf of the tenderer (duly authorised)

'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:
 On behalf of the tenderer (duly authorised)

 Date

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 Of 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	<p>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?</p> <p>(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 <i>audi alteram partem</i> rule was applied).</p> <p>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.</p>	Yes <input type="checkbox"/>	No <input type="checkbox"/>
2.1.1	If so, furnish particulars:		
2.2	<p>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?</p> <p>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.</p>	Yes <input type="checkbox"/>	No <input type="checkbox"/>
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 <input type="checkbox"/>	No <input type="checkbox"/>
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 <input type="checkbox"/>	No <input type="checkbox"/>
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 <input type="checkbox"/>	No <input type="checkbox"/>
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:
 On behalf of the tenderer (duly authorised)

 Date

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:
On behalf of the tenderer (duly authorised)

Date

<h2 style="text-align: center;">Schedule F.9: Certificate of Independent Tender Determination</h2>
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I, the undersigned, in submitting this tender number 229G/2023/24 and tender description: Supply and delivery of STM 16/4/1 & MPLS-TP fibre optic multiplexer and extension and support of existing multiplexer network management system 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 consortium¹ 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:

On behalf of the tenderer (duly authorised)

Date

(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 clause 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.

[illegible]

List relevant documentation attached in Schedule F.10 below.

Signature _____
 Print name: _____
 On behalf of the tenderer (duly authorised) _____

Date _____

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:
 On behalf of the tenderer (duly authorised)

 Date

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:
 On behalf of the tenderer (duly authorised)

 Date

Schedule F.13: Information to Be Provided With the Tender

The following information shall be provided with the Tender:

1. OEM letter as per **clause 2.2.1.1.3**
2. **Complete the following Schedules and provide supporting documents. Clause 2.2.1.1.5 and 2.2.1.1.18**

Note: No new information will be accepted after the closing date of tender. Tenderers are reminded to populate the schedules completely and to submit all the required supporting documents to avoid being deemed non-responsive or losing functionality points due to missing documentation.

- a. Schedule F.13 A: Schedule of Technical Particulars
- b. Schedule F.13 B: Schedule of Technical Particulars (Item 12– Managed compact plug & playlayer-2 switch)
- c. Schedule F.13 C: Schedule of Technical Particulars (MPLS-TP)
- d. Schedule F.13 D: Annexures for Functionality Scoring
- e. Schedule F.13 E: Schedule Of Previous Relevant Experience
- f. Schedule F.13 F: Schedule of Reference Substation Projects

3. Information to be provided at tender closing or upon request.

- a. Schedule F.13 G: After Sales Support Facilities in South Africa
- b. Schedule F.13 H: Field service engineer support contact details
- c. Schedule F.13 I Maintenance manual of equipment offered.
- d. Schedule F.13 J the Schedule of Type Tests completed.
- e. Schedule F.13 K Drawings and samples to be provided on request to confirm compatibility with existing items

SIGNED ON BEHALF OF TENDERER:

Schedule F.13A: SCHEDULE OF TECHNICAL PARTICULARS SDH/PDH

NAME OF MANUFACTURER: _____

MODEL: _____

TYPE: _____

		REQUIRED	OFFERED
GENERAL:			
Type of multiplexer for existing network		SDH: ADM	
Complying to ITU-T rec.		Yes	
Transmission Capacity	Gbit/s Mbit/s Mbit/s	STM-16: 2.5 STM-4: 622 STM-1: 155	
Access capacity on 64kbit/s	channels	>= 200	
Access capacity on 2Mbit/s	channels	>= 40	
Redundant central processor		Shall be available	
Digital cross connect function		Fully non-blocking	
PDH cross connect capacity		>= 128x2Mbit/s	
SDH cross connect capacity, high order		>= 128x VC-4	
SDH cross connect capacity, low order		>= 1008 x VC-12	
Equipment used in substation environment		List of 5 reference substation projects	
The equipment is KEMA type tested		YES	
Teleprotection interface:			
Integrated distance teleprotection interface		YES	
Integrated optical teleprotection interface		YES	
Addressing of protection commands		YES	
Loop test for measuring delay time		YES	
1+1 switch-over less than 10ms		YES	
TRANSPORT LEVEL: Interfaces:			
Optical STM-16 interface supported		YES	
Optical STM-4 interface supported		YES	
Optical STM-1 interface supported		YES	
SDH based on SFP technology		YES	
Electrical SDH interface		YES	
HDB3, 2Mbit/s interfaces per module	Amount	>= 8	

GENERAL:			
Complying to ITU-T rec.		G.703, transparent G.704, selectable	
Optical 10GE interface supported		YES	
Optical 10GE interface	Amount	>= 4	
Optical / Electrical 1GbE interface	Amount	>= 100	
Switching capacity of Ethernet Switching Matrix		> 60 Gbit/s full duplex	
1+1 bidirectional, symmetrical LSP protection		Yes	
1:1 bidirectional, symmetrical LSP protection		Yes	
Support of Synchronous Ethernet		Yes	
Support of IEEE1588 v2 transparent clock		Yes	
Support of time of day information using IEEE 1588 v2		Yes	
Accuracy of time of day information per node	us	< 1 us	
Number of VLANs supported	Amount	> 4000	
MAC address table size		>= 16 k	
Number of ports in link aggregation group	Amount	>= 8	
DSL interface:			
DSL type / line code		G.SHDSL	
2Mbit/s: Number of copper wires	Amount	4 or 2	
USER INTERFACES			
Voice module for trunk lines:			
1+1 path protection, individually programmable		YES	
Analyse, 4wire with E&M: Input level Output level	dBr	+9.5 to -16.0 +7.0 to -16.5	
Analyse, 2wire with E&M: Input level Output level	dBr	+9.5 to - 12.5 -1.0 to - 20.0	
Digital, 2Mbit/s CAS or PRI		YES	
Number of interfaces per module	Amount	>= 8	
Voice interfaces for remote subscriber:			
2wire, subscriber side	dBr	-5 ... +4 / -7.5 ... -1	
Minimum number of subscribers per module	Amount	>= 10	
2wire, PABX side	dBr	-5 ... +4 / -7.5 ... -3	
Minimum number of PABX interfaces per module	Amount	>= 10	
Integrated teleprotection			
Interface for Commands:			
Number of independent commands per module	Amount	>= 4	
Transmission time max.	ms	6	
Protection voltage	Max VDC	250	
1 + 1 path protection		YES	

		REQUIRED	OFFERED
Interface(s) for Differential Protection:			
GENERAL:			
Optical interface IEC 60870-5-1	kbit/s	Minimum 64	
Optical interface C37.94	kbit/s	Minimum 64	
Symmetrical Switching		Yes	
Data module			
V.24/V.28 (RS-232)	Amount	>= 4 ports / module	
V.11/X.24 (RS-422)	Amount	>= 4 ports / module	
V.35	Amount	>= 4 ports / module	
Integrated Ethernet port available on DATA Interface		YES	
SW-programmable board available to assign different types of data interface to each port.		YES, as option available	
Functions available for individual configuration: - 1+1 path protection - point-multipoint - performance monitoring available for all data interface		YES YES YES YES	
Ethernet module			
Ethernet A: 10/100/1000BaseT 1000Base LX/SX L2 switching function EoS WAN capacity Logical WAN ports GFP (acc. ITU-T G.7041) VCAT (acc. ITU-T G.707) LCAS (acc. ITU-T G.7042) xSTP	Amount Amount Mbit/s Amount	>= 100 >= 100 YES >= 2 Gbit/s >= 32 YES YES YES YES	
Ethernet B: 10/100BaseT L3 Routing function Routing protocols WAN capacity WAN ports WAN protocol	 Amount	YES YES static IP routing OSPF2 V2 >= 8x 2Mbit/s (64kbit/s granularity) >= 30 PPP, HDLC	
Ethernet C: Power over Ethernet	ports	>= 6	
Integrated alarm gathering module:			
Number of external alarms per module	Amount	>= 8	
Auxiliary power supply for ext. contacts		YES	

		REQUIRED	OFFERED
GENERAL:			
CONFIGURATION TOOL:			
Type/Name of configuration tool			
For local / remote operation		YES / YES	
Data communication network (DCN)		Ethernet / IP	
Integrated Management of Teleprotection Command module		YES	
NETWORK MANAGEMENT SYSTEM			
Type/Name of configuration tool			
For fault / configuration management		YES / YES	
Data communication network (DCN)		Ethernet / IP	
Management of integrated Teleprotection Command Module		YES	
Ambient Conditions:			
Storage: ETS 300 019-1-1, class 1.2	°C / % hum	- 25 ... + 70°C / 95%	
Transport: ETS 300 019-1-2, class 2.2	°C / % hum	- 25 ... + 70°C / 95%	
Operation: ETS 300 019-1-3, class 3.1E	°C / % hum	- 20 ... +60°C / 95%	
Operation in fan less configuration	°C / % hum	- 20 ... +55°C / 95%	
Power Supply			
Operation	VDC	48 / 60 (-15/+20%)	
Dual power feeding		YES	

EMISSION OF THE EQUIPMENT (SUBSTATION ENVIRONMENT)

No	Test Name	Description	Basic standard	Class	Comply
1.1	Radiated radio frequency interference	30 MHz to 1 GHz 1 GHz to 6 GHz	EN 55022	A	
1.2	Conducted radio frequency interference AC/DC Power supply	150 kHz to 30 MHz	EN 55022	A	

IMMUNITY OF THE EQUIPMENT (SUBSTATION ENVIRONMENT)

No	Test Name	Description	Basic standard	Level	Comply
2.1	ESD test	Contact/air discharge	IEC 61000-4-2	6 / 8 kV	
2.2	Radiated electromagnetic field	80 to 1000 MHz, 80% AM, 1 kHz modulated	IEC 61000-4-3	10 V/m	
2.3	Radiated electromagnetic field	1.0 to 2.5 GHz, 80% AM, 1 kHz modulated	IEC 61000-4-3	10 V/m	
2.4	Fast transient test	AC/DC Power supply: all other ports:	IEC 61000-4-4	4 kV 2 kV	

No	Test Name	Description	Basic standard	Level	Comply
2.5	Surge test (1.2/50 μ s)	<u>AC/DC Power supply:</u> Common mode Differential mode <u>DC Power supply 48 V:</u> Common mode Differential mode <u>Signal terminals:</u> Common mode Differential mode <u>Telecommunication ports:</u> Common mode	IEC 61000-4-5	2.0 kV 1.0 kV 0.5 kV 0.5 kV 2.0 kV 1.0 kV 1.5 kV	
2.6	Conducted radio frequency interference	0.15 to 80 MHz, 80% AM, 1kHz modulated	IEC 61000-4-6	10 V/m (e.m.f.)	
2.7	Power frequency magnetic field	Continuous Short (1 to 3 s)	IEC 61000-4-8	30 A/m 300 A/m	
2.8	Damped oscillatory waves	<u>AC/DC Power supply:</u> Common mode Differential mode <u>Signal terminals:</u> Common mode Differential mode <u>Telecommunication ports:</u> Common mode 1 MHz, 400 Hz repetition rate, 2 s burst duration	IEC 61000-4-12	2.5 kV 1.25 kV 2.5 kV 1.25 kV 2.5 kV	
2.9	Conducted common mode disturbance	Frequency 50 Hz, continuous mode	IEC 61000-4-16	10 / 30 Vrms	

Tenderer shall provide all necessary information that deems to be necessary to complete the project in all respects.

Schedule F 13B: SCHEDULE OF TECHNICAL PARTICULARS Managed Switch

NAME OF MANUFACTURER: _____

MODEL: _____

TYPE: _____

		REQUIRED	OFFERED
GENERAL:			
Type of Managed Plug & Play Layer 2 switch		Compact/Din rail	
Complying to ITU-T rec.		Yes	
Transmission Capacity	Mbit/s	≥ 100	
Access capacity on Ethernet Access	Mbit/s	10/100	
Equipment used in substation environment		YES	
TRANSPORT LEVEL: Interfaces:			
Optical SFP interface supported	1310nm 1550nm	YES YES	
Fibre glass diameter	μm	9/125	
xDSL Subscriber Line Interface		≥ 1 Pair Copper $\geq 0,5\text{mm}^2$	

		REQUIRED	OFFERED
GENERAL:			
Complying to ITU-T rec.			
Switching capacity of Ethernet Switching Matrix		> 60 Gbit/s full duplex	
Support of time of day information using IEEE 1588 v2		Yes	
Accuracy of time of day information per node	us	< 1 us	
Number of VLANs supported	Amount	> 4000	
DSL interface:			
DSL type / line code		G.SHDSL	
Number of copper wires	Amount Diameter	4 or 2 $\geq 0,5\text{mm}^2$	

USER INTERFACES			
Voice interfaces for remote subscriber:			
2wire, subscriber side	dBr	-5 ... +4 / -7.5 ... -1	
Minimum number of subscribers per module	Amount	1	
2wire, PABX side	dBr	-5 ... +4 / -7.5 ... -3	
Minimum number of PABX interfaces per module	Amount	1	

REQUIRED OFFERED			
GENERAL:			
Data module			
V.24/V.28 (RS-232)	Amount	>= 2 ports	
Ethernet module			
Ethernet A: 10/100/BaseT	Connector	RJ 45	
	Amount	4	
Ethernet C: Power over Ethernet	RJ45 port	Yes/No	

REQUIRED OFFERED			
GENERAL:			
CONFIGURATION TOOL:			
Type/Name of configuration tool			
For local / remote operation		YES / YES	
Data communication network (DCN)		Ethernet / IP	
NETWORK MANAGEMENT SYSTEM			
Type/Name of configuration tool			
For fault / configuration management		YES / YES	
Data communication network (DCN)		Ethernet / IP	
Ambient Conditions:			
Storage: ETS 300 019-1-1, class 1.2	°C / % hum	- 25 ... + 70°C / 95%	
Transport: ETS 300 019-1-2, class 2.2	°C / % hum	- 25 ... + 70°C / 95%	
Operation: ETS 300 019-1-3, class 3.1E	°C / % hum	- 20 ... +60°C / 95%	
Operation in fan less configuration	°C / % hum	- 20 ... +55°C / 95%	
Power Supply			
Operation	VDC	20-60 (-15/+20%)	
Dual power feeding		YES	

Emission of the equipment (substation environment)

No	Test Name	Description	Basic standard	Class	Yes/No
1.1	Radiated radio frequency interference	30 MHz to 1 GHz 1 GHz to 6 GHz	EN 55022	A	
1.2	Conducted radio frequency interference AC/DC Power supply	150 kHz to 30 MHz	EN 55022	A	

Immunity of the equipment (substation environment)

No	Test Name	Description	Basic standard	Level	Yes/No
2.1	ESD test	Contact/air discharge	IEC 61000-4-2	6 / 8 kV	
2.2	Radiated electromagnetic field	80 to 1000 MHz, 80% AM, 1 kHz modulated	IEC 61000-4-3	10 V/m	
2.3	Radiated electromagnetic field	1.0 to 2.5 GHz, 80% AM, 1 kHz modulated	IEC 61000-4-3	10 V/m	
2.4	Fast transient test	AC/DC Power supply: all other ports:	IEC 61000-4-4	4 kV 2 kV	
2.5	Surge test (1.2/50 μ s)	AC/DC Power supply: Common mode Differential mode DC Power supply 48 V:	IEC 61000-4-5	2.0 kV 1.0 kV	

No	Test Name	Description	Basic standard	Level	Yes/No
2.6	Conducted radio frequency interference	0.15 to 80 MHz, 80% AM, 1kHz modulated	IEC 61000-4-6	10 V/m (e.m.f.)	
2.7	Power frequency magnetic field	Continuous Short (1 to 3 s)	IEC 61000-4-8	30 A/m 300 A/m	
2.8	Damped oscillatory waves	AC/DC Power supply: Common mode	IEC 61000-4-12	2.5 kV	
2.9	Conducted common mode disturbance	Frequency 50 Hz, continuous mode	IEC 61000-4-16	10 / 30 Vrms	

Tenderer shall provide all necessary information that deems to be necessary to complete the project in all respects

Schedule F 13C: SCHEDULE OF TECHNICAL PARTICULARS MPLS-TP

NAME OF MANUFACTURER:

MODEL:

TYPE:

		REQUIRED	OFFERED
GENERAL:			
Type of multiplexer		MPLS-TP	
Transmission Capacity	Gbit/s Gbit/s	1 10	
Small chassis		19" or DIN rail	
Medium chassis		19" or DIN rail	
Redundant power supply		Yes/No	
Equipment used in substation environment		List of 5 reference substation projects	
Teleprotection interface:			
Integrated distance teleprotection interface		YES	
Integrated optical teleprotection interface		YES	
Addressing of protection commands		YES	
Loop test for measuring delay time		YES	
1+1 switch-over less than 10ms		YES	
Interfaces:			
Gigabit interface supported		YES	
10 Gigabit interface supported		YES	
IP routing interface		YES	
C37.94 interface		YES	
Serial interfaces	Amount	>= 8	
E1 interface		YES	
SHDSL interface		YES	
FXS interface		YES	
V.35		YES	
X.21		YES	
Rs232		YES	
IEEE C37.94		YES	

Schedule F 13D: ANNEXURES FOR FUNCTIONALITY SCORING

COMPETENCY OF CONTRACTOR'S STAFF

(Information to be supplied with Tender) Proven experience of the Technician (Field Service Engineer) In the setup, configuration and installation of OTN network SDH and MPLS-TP networks (Refer to Schedule F.13D)
Provide detailed staff CV and relevant experience.

The Tenderer intends using the following Technical Field Service Engineers who are deemed competent.

[illegible]

Only names accompanied by CV's and Credentials will be considered at the evaluation stage for functionality scoring purposes.

Schedule F.13E: SCHEDULE OF PREVIOUS RELEVANT EXPERIENCE

**The following information must be provided by the tenderer at the time of tendering.
Failure to provide this information shall result in the tenderer scoring 0 in the functionality for the applicable criteria**

Companies proven track record in the distribution and support services of a multiplexer network system, installed Into High Voltage and Medium Voltage substations (Refer to Schedule F.13E and 13F) with proven track record and . Provide minimum of two referral signed letters.

Details of the Tenderer's previous proven competency and experience in the execution of work of a similar Or equivalent nature to that described in this document.

PREVIOUS EXPERIENCE

Recent	Details	
1	Brief Description of Contract: <hr/> <hr/> Starting Date (Month and Year): <hr/> End Date (Month and Year): <hr/> Total Value of Contract awarded to you: R <hr/>	Principal (Employer / Awarder of Contract): <hr/> (Company / Institution) Contact Person at Principal: <hr/> (First name or Initials, plus Surname) Telephone Number: <hr/>
2	Brief Description of Contract: <hr/> <hr/> Starting Date (Month and Year): <hr/> End Date (Month and Year): <hr/> Total Value of Contract awarded to you: R <hr/>	Principal (Employer / Awarder of Contract): <hr/> (Company / Institution) Contact Person at Principal: <hr/> (First name or Initials, plus Surname) Telephone Number: <hr/>

3	Brief Description of Contract: <hr/> <hr/> Starting Date (Month and Year): <hr/> End Date (Month and Year): <hr/> Total Value of Contract awarded to you: R <hr/>	Principal (Employer / Awarder of Contract): <hr/> (Company / Institution) Contact Person at Principal: <hr/> (First name or Initials, plus Surname) Telephone Number: <hr/>
4	Brief Description of Contract: <hr/> <hr/> Starting Date (Month and Year): <hr/> End Date (Month and Year): <hr/> Total Value of Contract awarded to you: R <hr/>	Principal (Employer / Awarder of Contract): <hr/> (Company / Institution) Contact Person at Principal: <hr/> (First name or Initials, plus Surname) Telephone Number: <hr/>

If further space is required the details can be provided on a separate sheet.

Total years of related experience of the company: Years.

Schedule F.13F: SCHEDULE OF REFERENCE - SUBSTATION PROJECTS

	Company Name	Description of Projects	Contact Person	Contact No.	Period(Start : (Month and Year) to End dates (Month and Year):	Value of contract

Schedule F.13G: AFTER SALES SUPPORT FACILITIES IN SOUTH AFRICA

No.	Description	Tenderer to complete
1	Manufacturer's or Agent's name	
2	Address	
3	Telephone Number and Area Code	
4	Telefax Number and Area Code	
5	Years established	
6	Number of permanent resident technicians	
7	If repair or workshop facilities exist	
8	If spare parts are available in Republic	
9	State whether QA system has been approved in terms of SANS 9001	
10	If yes, state registration certificate No.	
11	Other relevant details	

Schedule F.13H: Field service engineer after hour contact detail

No.	Description	Tenderer to complete
1	Field service engineer	
2	Address	
3	Telephone Number and Area Code	
4	Telefax Number and Area Code	
5	After hours Telephone Number and Area Code	
6	After hours Cell Number and Area Code	

Schedule F.13I: <u>Maintenance manual of equipment offered.</u>
--

No.	Description	Tenderer to Indicate if available
1	System Installation manual	
2	System Commissioning manual	
3	System scheduled Maintenance manual	
4	Battery maintenance manual	

Schedule F.13J: <u>The Schedule of Battery specifications.</u>

No.	Description	Tenderer to Complete and submit documents.
1	Battery – specification and dimensions	
2	Battery charge rates and duty cycles	
3	Battery warranty information	

Schedule F.13K: Drawings and samples to be provided on request to confirm compatibility with existing items

No.	Description	Tenderer to complete/attach drawings.
1	Equipment drawings and dimensions	
2	Interface drawings and dimensions	
3	Cabinet Drawings and dimensions	
4	Cabinet accessories drawing and dimensions	
5	Typical connection diagrams	

 Signature
 Print name:
 On behalf of the tenderer (duly authorised)

 Date

Schedule F.14: Appeal Application

annexure 'B'

OFFICIAL RECEIPT
(Valid only if printed
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
(CASHIERTO RETAIN A COPY)

RECEIPT NO: _____

DATE: _____

SAP GL:

8	1	0	1	0	0
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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 printed
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
(CASHIERTO 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

CIVIC CENTRE IZIKO LOLUNGU BURGERSENTRUM
12 HERTZOG BOULEVARD CAPE TOWN 8001 P O BOX 298 CAPE TOWN 8000
www.capetown.gov.za


 Making progress possible. Together.