

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

**TENDER NO: 220S/2023/24****TENDER DESCRIPTION: SUPPLY, INSTALLATION AND MAINTENANCE PUBLIC ADDRESS SYSTEMS.****CONTRACT PERIOD: FROM DATE OF COMMENCEMENT UNTIL 30 JUNE 2028****CLOSING DATE: 14 May 2024****CLOSING TIME: 10:00 am****TENDER BOX NUMBER: 159****TENDER FEE**

**R 200** Non-refundable tender fee payable to 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.

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

<b>NATURE OF TENDER OFFER</b> (please indicate below)	
<b>Main Offer</b> (see clause 2.2.11.1)	
<b>Alternative Offer</b> (see clause 2.2.11.1)	

<b>TENDER SERIAL NO.:</b>
<b>SIGNATURES OF CCT OFFICIALS AT TENDER OPENING</b>
1
2
3

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# THE TENDER

## T.1 GENERAL TENDER INFORMATION

<b>TENDER ADVERTISED</b>	:	<b>12 April 2024</b>
<b>SITE VISIT/CLARIFICATION MEETING</b>	:	<b>Friday 26 April 2024 at 10:30am</b> (Not compulsory, but strongly recommended)
<b>VENUE FOR SITE VISIT/CLARIFICATION MEETING</b>	:	<b>Skype For Business</b>
	:	<a href="https://meet.capetown.gov.za/keikenametsi.naba/7s7s743t">HTTPS://MEET.CAPETOWN.GOV.ZA/KEIKENAMETSI.NABA/7S7S743T</a>
<b>TENDER BOX &amp; ADDRESS</b>	:	<b>Tender Box as per front cover</b> at the <b>Tender &amp; Quotation Boxes Office</b> , 2 <sup>nd</sup> Floor (Concourse Level), Civic Centre, 12 Hertzog Boulevard, Cape Town.
	:	The Tender Document (which includes the Form of Offer and Acceptance) completed 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 <b>“TENDER NO. 220S/2023/24 – SUPPLY, INSTALLATION AND MAINTENANCE OF ACCESS CONTROL SYSTEMS</b> , the tender box No. 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.
<b>CCT TENDER REPRESENTATIVE</b>	:	<b>Email:</b> <a href="mailto:SCM-IST@capetown.gov.za">SCM-IST@capetown.gov.za</a>

**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 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 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 one "Alternative tenderer" for the allocation of work. If insufficient responsive bids are received, the CCT reserves the right to appoint fewer tenderers, or not to appoint any tenderers at all.

Tenderers must complete both Schedules A and B. The City intends to award both schedules to a single bidder. Failure by any bidder to complete both schedules A and B will render the bid as non-responsive.

**Schedule A:** Supply of Public Address Systems, Equipment and Ancillaries

**Schedule B:** Installation, Upgrades and Maintenance of Public Address Systems

In section (5) Pricing Schedule the response must be made through completing Schedule A and Schedule B. Failure to complete Schedule A and Schedule B, will render the bid non-responsive.

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

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

### 2.1.6.1 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:** 20<sup>th</sup> 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](mailto: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:** 20<sup>th</sup> 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](mailto: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: 20<sup>th</sup> 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](mailto: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, 2<sup>nd</sup> 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](http://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;
- j) The tenderer is not a person, advisor, corporate entity or a director of such corporate entity, who is directly or indirectly involved or associated with the bid specification committee;
- k) A completed **Authorisation for the Deduction of Outstanding Amounts Owed to the CCT** to be provided and which does not indicate any details that renders the tender non-responsive based on the conditions contained thereon (applicable schedules below to be completed);
- l) The tenderer (including any of its representatives, directors or members), has not been found guilty of contravening the Competition Act 89 of 1998, as amended from time to time;
- m) The tenderer (including any of its representatives, directors or members), has not been found guilty on any other basis listed in the Supply Chain Management Policy.

#### 2.2.1.1.3 Compulsory clarification meeting

Not Applicable

#### 2.2.1.1.4 Minimum score for functionality

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 appears **(C.5) SPECIFICATION(S)** and the maximum possible score for each functional requirement 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 Scoring				
Item	Evaluation Criteria	Applicable values	Points	Maximum Points
Criteria 1	<b>Credible Company</b> Please provide the number of years the tenderer has been actively providing services for Public Address and related systems. <b>Please respond to this functional requirement in Schedule F13</b>	< 1 year ≥ 1 to ≤ 2 years > 2 to ≤ 3 years > 3 to ≤ 4 years > 4 to ≤ 5 years > 5 years	0 points 4 points 8 points 12 points 16 points 20 points	20 points
Criteria 2	<b>Company Resources Contract Manager..</b> Please provide the number of years the Contract Manager has been actively providing services for Public Address and related systems. <b>Please respond to this functional requirement in Schedule F13</b>	< 1 year ≥ 1 to ≤ 2 years > 2 to ≤ 3 years > 3 to ≤ 4 years > 4 to ≤ 5 years > 5 years	0 points 4 points 8 points 12points 16points 20 points	20 points
Criteria 3	<b>Company Resources –Technical Resources.</b> Please state the number of Technical staff National Technical Certificate Level 3 or Equivalent with 3 years of experience in the Public Address System environment. <b>Please respond to this functional requirement in Schedule F13</b>	0 Technical person 1 Technical person 2 Technical Persons 3 Technical Persons 4 Technical Persons 5 Technical Persons	0 points 3 points 6 points 12 points 15 points 20 points	20 Points
Criteria 4	<b>Past Experience and References of Public Address System Clients</b> Please indicate the total number of enterprise clients (with multiple installed Public Address Systems) worked for in the last three years. An Enterprise Client is considered a company with 200 or more employees with at least 3 locations where Public Address systems are installed or maintained. <b>Please respond to this functional requirement in Schedule F13</b>	0 x Enterprise Clients  1 x Enterprise Client  2 x Enterprise Clients  3 x Enterprise Clients  4 x Enterprise Clients or more	0 points  5 points  10 points  15 points  20 points	20 Points
Criteria 5	<b>Public Address Systems: Contract Value</b> Please indicate the total value of contracts of the projects done in the last three years. <b>Please respond to functional requirement in Schedule 13B</b>	< R1m ≥ 1m and ≤ R2m > R2m and ≤ R3m > R3m and ≤ R5m > R5m and ≤ R10m > R10m	0 points 4 points 8 points 12 points 16 points 20 points	20 Points
<b>Total Achievable Points for Functional Questions</b>				<b>100 Points</b>

The minimum qualifying score for functionality is **60** out of a maximum of **100**.

Where the entity tendering is a Joint Venture the tender 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.

#### **2.2.1.1.7 Provision of samples**

Only those tenders submitted by tenderers who provided acceptable samples as stated in the Tender Specifications will be declared 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 C.2, Part A hereto**) the tenderer warrants and agrees that all information provided in the tender submission is true and correct.

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

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

#### **2.2.13 Information and data to be completed in all respects**

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

#### **2.2.14 Closing time**

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

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

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

#### **2.2.15 Tender offer validity and withdrawal of tenders**

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

**2.2.15.2** Notwithstanding the period stated in clause 2.2.15.1 above, bids shall remain valid for acceptance for

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

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

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

- a) it shall be liable to the CCT for any additional expense incurred or losses suffered by the CCT in having either to accept another tender or, if new tenders have to be invited, the additional expenses incurred or losses suffered by the invitation of new tenders and the subsequent acceptance of any other tender;
- b) the CCT shall also have the right to recover such additional expenses or losses by set-off against monies which may be due or become due to the tenderer under this or any other tender or contract or against any guarantee or deposit that may have been furnished by the tenderer or on its behalf for the due fulfilment of this or any other tender or contract. Pending the ascertainment of the amount of such additional expenses or losses, the CCT shall be entitled to retain such monies, guarantee or deposit as security for any such expenses or loss, without prejudice to the CCT's other rights and/or remedies available to it in accordance with any applicable laws.

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

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, 2<sup>nd</sup> 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) Detrimentially 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 (Section 7)**:

- Based on the sum of the prices/rates in relation to historical volumes.

**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	<b>Gender are women (ownership)*</b>  >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"> <li>Company Registration Certification</li> <li>Central Supplier Database report</li> </ul>	<ul style="list-style-type: none"> <li>Issued by the Companies and Intellectual Property Commission</li> <li>Report name: CSD Registration report</li> </ul>
2	<b>Race are black persons (ownership)*</b>  >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"> <li>B-BBEE certificate;</li> <li>Company Registration Certification</li> <li>Central Supplier Database report</li> </ul>	<ul style="list-style-type: none"> <li>South African National Accreditation System approved certificate or commissioned sworn affidavit</li> <li>Issued by the Companies and Intellectual Property Commission</li> <li>Report name: CSD Registration report</li> </ul>
3	<b>Disability are disabled persons (ownership)*</b>  <i>WHO disability guideline</i> >2% ownership: 3 points >0% - 2% ownership: 1.5 point 0% ownership = 0 points	3	<ul style="list-style-type: none"> <li>Proof of disability</li> <li>Company Registration Certification</li> </ul>	<ul style="list-style-type: none"> <li>Medical certificate/ South African Revenue Services disability registration</li> <li>Issued by the Companies and Intellectual Property Commission</li> </ul>
<i>Reconstruction and Development Programme (RDP) as published in Government Gazette</i>				
4	<b>Promotion of Micro and Small Enterprises</b> <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"> <li>B-BBEE status level of contributor;</li> <li>South African owned enterprises;</li> <li>Financial Statement to determine annual turnover</li> </ul>	<ul style="list-style-type: none"> <li>Specifically in line with the respective sector codes which the company operates,</li> <li>South African National Accreditation System approved certificate or commissioned sworn affidavit</li> <li>Certificate of incorporation or commissioned sworn affidavit</li> <li>Latest financial statements (1 Year)</li> </ul>
	<b>Total points</b>	<b>20</b>		

\*Ownership: main tendering entity

**2.3.10.5 Risk Analysis**

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

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

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

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

**2.3.11 Negotiations with preferred tenderers**

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

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

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

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

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

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

**2.3.12 Acceptance of tender offer**

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

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

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

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

- a) is not under restrictions, has any principals who are under restrictions, or is not currently a supplier to whom notice has been served for abuse of the supply chain management system, preventing participation in the CCT's procurement,
- b) can, as necessary and in relation to the proposed contract, demonstrate that he or she possesses the professional and technical qualifications, professional and technical

competence, financial resources, equipment and other physical facilities, managerial capability, reliability, experience and reputation, expertise and the personnel, to perform the contract,

- c) has the legal capacity to enter into the contract,
- d) is not insolvent, in receivership, under Business Rescue as provided for in chapter 6 of the Companies Act, 2008, bankrupt or being wound up, has his affairs administered by a court or a judicial officer, has suspended his business activities, or is subject to legal proceedings in respect of any of the foregoing, complies with the legal requirements, if any, stated in the tender data, and
- e) is able, in the opinion of the CCT, to perform the contract free of conflicts of interest.

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

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

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

**2.3.12.5** The CCT reserves the right to nominate a 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 in 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.

<b>TENDER DOCUMENT GOODS AND SERVICES</b>		 CITY OF CAPE TOWN ISIXEKO SASEKAPA STAD KAAPSTAD
<b>SUPPLY CHAIN MANAGEMENT</b>		
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**TENDER NO: 220S/2023/24****TENDER DESCRIPTION: SUPPLY, INSTALLATION AND MAINTENANCE PUBLIC ADDRESS SYSTEMS.****CONTRACT PERIOD: FROM DATE OF COMMENCEMENT UNTIL 30 JUNE 2028**

## THE CONTRACT

<b>THE CITY OF CAPE TOWN</b>	
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	
<b>AUTHORISED REPRESENTATIVE</b>	Kobus Janse van Rensburg

AND

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

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

<b>NATURE OF TENDER OFFER</b> (please indicate below)	
<b>Main Offer</b> (see clause 2.2.11.1)	
<b>Alternative Offer</b> (see clause 2.2.11.1)	



## C.2 FORM OF OFFER AND ACCEPTANCE

### TENDER NO.: 220S/2023/24 DESCRIPTION: SUPPLY, INSTALLATION AND MAINTENANCE PUBLIC ADDRESS SYSTEMS SYSTEMS

#### 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

<b>FORM OF OFFER AND ACCEPTANCE (continued)</b>
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**TENDER NO.: 220S/2023/24**

**DESCRIPTION: SUPPLY, INSTALLATION AND MAINTENANCE PUBLIC ADDRESS SYSTEMS SYSTEMS**

**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 NO.: 220S/2023/24  
DESCRIPTION: SUPPLY, INSTALLATION AND MAINTENANCE PUBLIC ADDRESS  
SYSTEMS SYSTEMS**

**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 .....

ONLY TO BE COMPLETED AT ACCEPTANCE STAGE

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 NO.: 220S/2023/24  
DESCRIPTION: SUPPLY, INSTALLATION AND MAINTENANCE PUBLIC ADDRESS  
SYSTEMS SYSTEMS**

**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 at..... on the..... day of.....20....

\_\_\_\_\_  
Witness

\_\_\_\_\_  
Mandatory

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

\_\_\_\_\_  
Witness

\_\_\_\_\_  
for and on behalf of  
CCT

## C.4 PRICE SCHEDULE

**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’**

**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 **Pricing using Mark-up Method:**

In this tender, pricing requirements in **(5) PRICE SCHEDULE** are defined by a mark-up percentage. The City will provide a base amount (for evaluation purposes only), which is derived from historical average costs of equivalent items, as indicated in the relevant schedules to evaluate the offered mark-up percentage. Please indicate your mark-up percentage as in the mark-up column indicated in each table. Refer to the specifications for typical licences that they maybe required/

- **Mark-up percentage (%)** is the method where an all-inclusive mark-up percentage (%) is applied to the OEM/Supplier Price. Refer to pricing instruction 5.3 as the mark-up amount must include all, margins and fees added to the OEM/Supplier Price.
  - **Mark-up percentage (%)** is a percentage used to calculate the evaluation price.
    - $\text{Mark-up \%} = X\%$
  - **Mark-Up Value** = OEM/Supplier Price \* Mark Up Percentage
  - **Evaluation/Final Price** – This is the price that will be invoiced to the City and is calculated by the formula:
    - $\text{Evaluation/Final Price} = \text{OEM/Supplier Price} + \text{Mark up Value}$
- **Fixed rates** per unit as specified for services, per CCT financial year or part thereof, and is not subject to any further form of price adjustment for the duration of the tender.

- Note that OEM pricing must be submitted on an OEM letterhead for evaluation purposes.

All tendered rates must be in Rand (ZAR) and exclude VAT.

5.9 This tender consists of two schedules, as tabulated below. Tenderers must submit bids for all schedules and complete the requested pricing schedules in all schedules in order to be considered for evaluation.

**Schedule A:** Supply of Public Address Systems, Equipment and Ancillaries

**Schedule B:** Installation, Upgrades and Maintenance of Public Address Systems

Failure to complete Schedule A and Schedule B, will render the bid non-responsive.

Tenderers must supply together with the tender response, a detailed and comprehensive Recommended Retail Price Lists (OEM Price Lists) in the relevant sub-schedule in Error! Reference source not found.. New OEM/Supplier Recommended Retail Price Lists must be provided with every quote submitted to the City at time of purchase

### Schedule A. Supply of Public Address Systems, Equipment and Ancillaries

Tenderers wishing to bid for this Tender must fill in the tables below with a complete price list. Refer to **(C.5) Specifications** section for technical specifications applicable to these schedules.

**Table A1. Supply of Public Address Systems, Equipment and Ancillaries**  
Note that OEM/Distributor pricing should be submitted on an OEM/Distributor letterhead for evaluation purposes.

Item	Description	OEM/Distributor Price (R)	Mark Up %	Mark Up Value	Final Price
A1.1	Power Amplifiers				
A1.2	Line Modules				
A1.3	Racks, Brackets, Stands and Frames				
A1.4	Power Devices				
A1.5	Signal Processors.				
A1.6	Digital Mixers.				
A1.7	Analogue Mixers				
A1.8	Microphone and Radio Receivers / Transmitters.				
A1.9	Speakers				
A1.10	Recording Devices.				
A1.11	Playback Devices.				
A1.12	UHF Band Wireless System.				
A1.13	Headsets.				
A1.14	Portable Sound Systems.				
A1.15	IP Intercom Systems.				
A1.16	Accessories				
A1.17	Connectors.				
A1.18	Cabling.				

**Table A.2. Typical Project for Supply of Public Address System Equipment**

**THE FOLLOWING TABLE WILL BE USED FOR EVALUATION PURPOSES ONLY.** Refer to (13) Specifications and specific paragraphs 13.4 Installation and Commissioning and 13.5 Maintenance for detail specifications for these services. **Note that OEM/Distributor pricing should be submitted on an OEM letterhead for evaluation purposes.**

Item	Item Description	OEM/Distributor Price (R)	Mark Up %	Mark Up Value	Final Price
<b>A 2.1</b>	<b>Amplifiers</b>				
A 2.1.1	30W Mixer Amplifier or equivalent to the TOA A-2030CE				
A 2.1.2	240W Mixer Amplifier or equivalent to the TOA A-2240				
A 2.1.3	800W Power Amplifier or equivalent to the Crown XTi 2000				
<b>A 2.2</b>	<b>Line Modules</b>				
A 2.2.1	Microphone/Line Input Module or equivalent to the TOA D2000AD1				
A 2.2.2	Dual Microphone/Line Input Module with DSP or equivalent to the TOA D-001T				
<b>A 2.3</b>	<b>Racks, Brackets, Stands and Frames</b>				
A 2.3.1	Racks for amplifiers and ancillary equipment or equivalent to the TOA RCK-001				
A 2.3.2	Microphone Stand or equivalent to the Hercules MS533B				
A 2.3.3	Speaker Brackets and Stands				
<b>A 2.4</b>	<b>Power Devices</b>				
A 2.4.1	Emergency Power Supply Control Unit and Power Supply or equivalent to the TOA VX-2000DS and VX-200PS				
A 2.4.2	UPS 1kVA or equivalent to the				
<b>A 2.5</b>	<b>Signal Processors</b>				
A 2.5.1	Signal Processor with audio bus or equivalent to the BLU100				
<b>A 2.6</b>	<b>Digital Mixers</b>				
A 2.6.1	Digital Mixing Processor Unit or equivalent to the TOA D2008SP				
<b>A 2.7</b>	<b>Analog Mixer</b>				
A 2.7.1	Analogue Mixer or equivalent to the Yamaha MG16XU mixer.				
<b>A 2.8</b>	<b>Microphones and Radio Receivers</b>				
A 2.8.1	Shure Microphone and Receiver or equivalent				
A 2.8.2	Lecturn Microphone or equivalent to Crown LM300AL				
<b>A 2.9</b>	<b>Speakers</b>				
A 2.9.1	JBL Line Array Speaker System or equivalent				
A 2.9.2	Bass Reflex Subwoofer Speaker				
A 2.9.3	Stage Monitor or equivalent to the JBL VRX915M				
A 2.9.4	Long Range Horn Array Speaker				
<b>Item</b>	<b>Item Description</b>	<b>OEM/Distributor</b>	<b>Mark Up</b>	<b>Mark Up</b>	<b>Final</b>

		Price (R)	%	Value	Price
<b>A 2.10</b>	<b>Recording Devices</b>				
A 2.10.1	Portable Digital Recorder or equivalent to the TASCAM DR-05				
A 2.10.2	Professional CD Recorder/Player or equivalent to the CDRW901MKII				
<b>A 2.11</b>	<b>Playback Devices</b>				
A 2.11.1	CD/MP3 Player or equivalent to the TASCAM CD-200				
<b>A 2.12</b>	<b>UHF Band Wireless System</b>				
A 2.12.1	Wireless Tuner or equivalent to the TOA WT-5800D01ER				
A 2.12.2	UHF Wireless Antenna or equivalent to the YW-4500				
<b>A 2.13</b>	<b>Headsets</b>				
A 2.13.1	Stereo Headphones				
<b>A 2.14</b>	<b>Portable Sound Systems</b>				
A 2.14.1	Compact Portable Sound System or equivalent to the BOSE L1 Compact				
<b>A 2.15</b>	<b>IP Intercom Systems</b>				
A 2.15.1	IP Multifunctional Master Station or equivalent to the N-8600MS				
A 2.15.2	IP Standard Master Station or equivalent to the N-8510MS				
A 2.15.3	IP Door Station or equivalent to the N-8640DS				
A 2.15.4	IP Network Intercom Exchange or equivalent to the N-8010EX				
A 2.15.5	Audio Interface Unit or equivalent to the N-8000AF				
A 2.15.6	Telephone Interface Unit or equivalent to the N-8000AL				
A 2.15.7	C/O Interface Unit				
<b>A 2.16</b>	<b>Accessories</b>				
A 2.16.1	30W Line Transformer or equivalent the TOA MT-S0301				
A 2.16.2	Power Amplifier Input Module or equivalent to the VP-200VX				
<b>A 2.17</b>	<b>Connectors</b>				
A 2.17.1	XLR type connectors				
A 2.17.2	XLR type receptacles				
A 2.17.3	BNC connectors				
<b>A 2.18</b>	<b>Cabling</b>				
A 2.18.1	Speaker cable per 100m roll				
A 2.18.2	Microphone cable per 100m roll				
A 2.18.3	Cat 5e cable per 100m roll				

## Schedule B. Installation, Upgrades and Maintenance of Public Address Systems

<b>Table B.1. Installation, Upgrades and Maintenance of Public Address Systems</b>					
This schedule is for the installation, upgrades and maintenance of Public Address Systems and Ancillaries compatible to existing equipment. .					
Item	Description	Unit	Price per Unit (ZAR excl. VAT)		
			Rate or Unit Price Year 1	Rate or Unit Price Year 2	Rate or Unit Price Year 3
<b>Per Hour Rates For Projects &lt; Day (eight (8) working hours)</b>					
<b>Note that an all inclusive installation rate must be given for the Sound Desk Operator, Sound Desk Technician, Sound/Acoustic Engineer, Software Engineer, Programming, Setup, Commissioning and Project Management</b>					
B.1.1	Inclusive Installation Rate	per hour	R	R	R
<b>Note that an all inclusive rate must be given for support</b>					
B.1.2	Support Technician	per hour	R	R	R
<b>Note that an all inclusive rate must be given for remedial maintenance</b>					
B.1.3	Maintenance Rate	per hour	R	R	R
<b>Per Day Rates For Projects &gt; Day (eight (8) working hours)</b>					
<b>Note that an all inclusive installation rate must be given for the Sound Desk Operator, Sound Desk Technician, Sound/Acoustic Engineer, Software Engineer, Programming, Setup, Commissioning and Project Management</b>					
B.1.4	Inclusive Installation Rate	per day	R	R	R
<b>Note that an all inclusive rate must be given for support</b>					
B.1.5	Support Technician	per day	R	R	R
<b>Note that an all inclusive rate must be given for remedial maintenance</b>					
B.1.6	Maintenance Rate	per day	R	R	R
B.1.7	Training – On-site	per day	R	R	R

Indicate in the table below that all system specifications are met or not

**Table B2 SPECIFICATIONS MET**

Please indicate by a YES or No if the functionality and specification is met	System Specification Met YES/NO
B2.1 Amplifier Specs	
B2.2 Line Modules	
B2.3 Racks, Brackets, Stands and Frames	
B2.4 Power Devices	
B2.5 Signal Processors	
B2.6 Digital Mixers	
B2.7 Analog Mixers	
B2.8 Microphones and Radio Receivers	
B2.9 Speakers	
B2.10 Recording Devices	
B2.11 Playback Devices	
B2.12 UHF Band Wireless System	
B2.13 Headsets	
B2.14 Portable Sound Systems	
B2.15 IP Intercom Systems	
B2.16 Accessories	
B2.17 Connectors	
B2.18 Cabling	

INITIALS OF CCT OFFICIALS		
1	2	3

## C.5 SPECIFICATION(S)

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”

### 5.1 Scope of Specification

The City has numerous facilities and depots throughout the Cape Town Metropolitan Area which require public address systems to provide reliable and quality announcement systems for staff and public who visit these facilities. The public address systems used by the City include systems based on TOA, Siemens and Bosch products. Public Address Systems currently in deployment by the City in different settings range from indoor to outdoor environments. Facilities that require maintenance, upgrading or enhancements include:

- Stadiums –i.e. Athlone Stadium, Cape Town Stadium.
- Halls small / minor / Large – i.e. Good Hope Centre, CTICC, Community halls, CTCC conference halls
- Small venues – i.e. Mayors banquet hall □ Outdoor venues – i.e. Parks, events.
- Promenades – i.e. Muizenberg, Sea Point, Strandfontein, Strand □ Public Swimming pool – i.e. all Municipal swimming baths.
- Depots and buildings – i.e. City owned premises, depots and stores

**5.1.1** This specification provides for the installation and maintenance of public address systems at City facilities, depots and buildings.

**5.1.2** The public address systems equipment offered shall be compatible with systems currently being used by the City.

**5.1.3** The public address systems equipment provided shall be systems or equipment with the same or better technical and functional specifications as the systems or equipment specified.

**5.1.4** The equipment offered shall be able to be fully integrated into the existing systems and shall provide seamless integration with respect to operation and functionality across the system.

**5.1.5** The onus shall be on the tenderer to ensure that the equipment offered is fully compatible with the existing systems.

**5.1.6** Tenderers shall submit with their tender response technical specifications for each category of systems, equipment and ancillaries as identified in **5.3 Technical and Functional Specifications** in the form of **technical data sheets** and/or **technical brochures** and/or **drawings**. Also included **warrantees and/or guarantees** on systems, equipment and ancillaries where applicable. **Information to Be Provided with The Tender** as per the instructions in **Schedule F13. Tenderer’s response will be regarded as non-responsive if this information is not provided.**

**5.1.7** **Tenderes must submit their technical help desk info at time of MOA.**

**5.1.8** New and existing public address equipment required includes some of the following items:

- Amplifiers
- Speakers
- Mixing desks
- Wireless or LAN PA systems
- All hardware & software related to both
- Current Digital, Analogue and PC controlled wireless systems available

This tender consists of two main schedules, i.e.

- **Schedule A Supply of Public Address Systems, Equipment**

This schedule is for the supply of all Public Address System goods, equipment and accessories.

- **Schedule B Installation, Upgrades and Maintenance of Public Address Systems**

This schedule is for all the services related to installation, upgrades and maintenance of Public Address Systems

## 5.2 Applicable Standards

5.2.1 Except where otherwise specified or implied, even if not directly requested within this tender, all equipment must comply with all applicable European Standards (CE) requirements.

5.2.2 All equipment and accessories shall ensure Electro Magnetic Compatibility in compliance with EN 50081-1 and EN 50082-1 and for safety aspects are compliant with EN 60950.

5.2.3 All equipment shall comply with the relevant ICASA regulations.

## 5.3 Technical and Functional Specifications

The following paragraphs provide detailed technical and functional specifications of the desired goods to be provided through this tender.

### 5.3.1 Amplifiers

#### 5.3.1.1 30W Mixer Amplifier

a) The 30W Mixer Amplifier shall have a frequency response of 50 – 20,000 Hz and distortion less than 1%.

b) The amplifier shall have one balanced 5-P DIN type microphone input, two balanced phone jack microphone inputs and two unbalanced RCA pin jack auxiliary inputs, high and low impedance balanced speaker outputs and unbalanced record outputs.

c) The units shall be suitable for small workshops and office environments for announcements and playing of background music.

d) The unit shall have phantom power and muting available on microphone 1 for supplying power to condenser microphones.

e) The unit shall have wide tone control adjustment range of +/- 10dB for bass and treble.

f) Power, signal and peak indicators shall be provided on the front panel.

g) The amplifier offered shall be similar or equal to the TOA A-2030CE.

h) 2U brackets shall be available similar or equal to TOA A-BRAC-2U-SA to enable the amplifier to be rack mounted.

i) The amplifier offered for shall be similar or equal to the Bosch TI-30.

j) Brackets shall be provided to enable the amplifier to be rack mounted.

**The following minimum specifications shall apply:**

Description	Specification Requirements
Output Power	30W
Frequency Response	50Hz to 20kHz (+/-3dB)
Distortion	<1% at 1kHz
Signal to noise ratio	>60dB
Speaker Outputs	100V and 4Ω

**5.3.1.2 60W Mixer Amplifier**

- a) The 60W Mixer Amplifier shall have a frequency response of 50 – 20,000 Hz and distortion less than 1%.
- b) The amplifier shall have one balanced 5-P DIN type microphone input, two balanced phone jack microphone inputs and two unbalanced RCA pin jack auxiliary inputs, high and low impedance balanced speaker outputs and unbalanced record outputs.
- c) The amplifier shall be particularly suited for broadcasting paging and supplying background music in facilities, workshops, depots and large meeting rooms.
- d) The unit shall have phantom power and muting available on microphone 1 for supplying power to condenser microphones.
- e) The unit shall have wide tone control adjustment range of +/- 10dB for bass and treble.
- f) Power, signal and peak indicators shall be provided on the front panel.
- g) The amplifier offered shall be similar or equal to the TOA A-2060.
- h) 2U brackets shall be available similar or equal to TOA A-BRAC-2U-SA to enable the amplifier to be rack mounted.

**The following minimum specifications shall apply:**

Description	Specification Requirements
Output Power	60W
Frequency Response	50Hz to 20kHz (+/-3dB)
Distortion	<1% at 1kHz
Signal to noise ratio	>60dB
Speaker Outputs	100V and 4Ω

**5.3.1.3 120W Mixer Amplifiers**

- a) The 120W Mixer Amplifiers shall have a frequency response of 50 – 20,000 Hz and distortion less than 1%.
- b) The amplifiers shall have one balanced 5-P DIN type microphone input, two balanced phone jack microphone inputs and two unbalanced RCA pin jack auxiliary inputs, high and low impedance balanced speaker outputs and unbalanced record outputs.
- c) The amplifiers shall be particularly suited for broadcasting paging and supplying background music in large facilities, workshops, depots and meeting rooms.
- d) The unit shall have phantom power and muting available on microphone 1 for supplying power to condenser microphones.
- e) The unit shall have wide tone control adjustment range of +/- 10dB for bass and treble.
- f) Power, signal and peak indicators shall be provided on the front panel.
- g) The 120W mixer amplifier offered shall be similar or equal to the TOA A-1812ER.
- h) 2U brackets shall be available similar or equal to TOA A-BRAC-2U-SA to enable the amplifiers to be rack mounted.

**The following minimum specifications shall apply:**

Description	Specification Requirements
Output Power	120W
Frequency Response	50Hz to 20kHz (+/-3dB)
Distortion	<2% at 1kHz
Signal to noise ratio	>60dB(mic), >75dB(Aux)
Speaker Outputs	100V and 4-16Ω

**5.3.1.4 240W Mixer Amplifier**

- a) The 240W Mixer Amplifiers shall have a frequency response of 50 – 20,000 Hz and distortion less than 1%.
- b) The amplifiers shall have one balanced 5-P DIN type microphone input, two balanced phone jack microphone inputs and two unbalanced RCA pin jack auxiliary inputs, high and low impedance balanced speaker outputs and unbalanced record outputs.
- c) The amplifiers shall be particularly suited for broadcasting paging and supplying background music in large facilities, workshops, depots and meeting rooms.
- d) The unit shall have phantom power and muting available on microphone 1 for supplying power to condenser microphones.
- e) The unit shall have wide tone control adjustment range of +/- 10dB for bass and treble.
- f) Power, signal and peak indicators shall be provided on the front panel.
- g) The 240W mixer amplifier offered shall be similar or equal to the TOA A-2240.
- h) 2U brackets shall be available similar or equal to TOA A-BRAC-2U-SA to enable the amplifiers to be rack mounted.

**The following minimum specifications shall apply:**

Description	Specification Requirements
Output Power	240W
Frequency Response	50Hz to 20kHz (+/-3dB)
Distortion	<1% at 1kHz
Signal to noise ratio	>60dB
Speaker Outputs	100V and 4Ω

**5.3.1.5 240W Power Amplifier**

- a) The 240W power amplifiers shall be used as a booster amplifier for use with the abovementioned range of mixer amplifiers.
- b) The power amplifier shall operate on 240VAC +/-10% mains or 24VDC power, and shall mix one balanced (screw terminal) Line in and one unbalanced (screw terminal) 100V Line input.
- c) The outputs shall be balanced Loop out and balanced high and low impedance (floating) Speaker out.
- d) The 240W power amplifier offered shall be similar or equal to the TOA P-2240.

**The following minimum specifications shall apply:**

Description	Specification Requirements
Output Power	240W
Frequency Response	50Hz to 20kHz (+/-3dB)
Distortion	<1% at 1kHz
Signal to noise ratio	>60dB
Speaker Outputs	100V and 4Ω

**5.3.1.6 420W Single-Channel Power Amplifier**

- a) The 420W Single-Channel Amplifier shall have a frequency response of 40 – 16 000 Hz and distortion less than 1%.
- b) The S/N ratio of the amplifier shall be greater than 80dB.
- c) The amplifier shall use the VP-200VX input module.
- d) The output shall have a number of options, namely 100V/24Ω, 70V/12Ω and 50V/6Ω (selectable by internal wiring change).
- e) The amplifiers power amplifier shall operate on 24VDC power supply and shall be able to handle voltages between 20VDC and 40VDC.
- f) The unit shall be rack mounted.
- g) The 420W power amplifier offered shall be similar or equal to the TOA VP-2421.

**The following minimum specifications shall apply:**

Description	Specification Requirements
Output Power	420W
Frequency Response	40Hz to 16kHz (+/-3dB)
Distortion	<1% at 1kHz
Signal to noise ratio	>80dB
Speaker Outputs	100V and 70V

**5.3.1.7 550W 4-Channel Digital Amplifier**

- a) The 550W Four-Channel Amplifier shall have a frequency response of 50 – 20 000 Hz and distortion less than 0.1%.
- b) The S/N ratio of the amplifier shall be greater than 100dB.
- c) The amplifier shall have four XLR-3-31 inputs with input impedance of 10kΩ (electrically balanced).
- d) The output power shall be 4 x 550W (4Ω) or 2 x 1100W (8Ω, bridged).
- e) The amplifier power amplifier shall operate on 240VAC +/-10% mains.
- f) The units shall be rack mounted.
- g) The 420W power amplifier offered shall be similar or equal to the TOA DA-550FCE.

**The following minimum specifications shall apply:**

Description	Specification Requirements
Number of Channels	4
Output Power	550W
Frequency Response	50Hz to 20kHz (+/-3dB)
Distortion	<0.1% at 1kHz
Signal to noise ratio	>100dB
Speaker Outputs	4Ω

## 5.3.1.8

**800W Power Amplifier**

- a) The 800W Power Amplifier shall be a solid-state two-channel unit with a switch-mode universal power supply.
- b) The output shall be usable as stereo or bridged-mono modes of operation. The bridged-mono mode shall bridge the outputs to provide increased output voltage.
- c) The amplifier shall contain controlled slew-rate voltage circuitry to protect it against radio frequency interference burnouts. It shall also be protected from current overload at its output stage. The slew rate of the amplifier shall be greater than 30 volts per microsecond in stereo mode.
- d) The amplifier shall temporarily go into a standby mode if its power transformer becomes excessively hot and shall automatically resume normal operation once it has cooled to a safe operating temperature.
- e) The front-panel controls shall include a power on/off switch, a dented input level control for each channel and three buttons for menu navigation of the front-panel LCD screen and front panel lockout.
- f) The front panel have the following indicators:
- Signal Indicator: Green LED, one per channel, shall illuminate when a very low-level signal is present at input. It shall be possible to use it for troubleshooting cable runs.
  - -10dB Indicator: Green LED shall flash when output signal exceeds -10dB below clip.
  - -20dB Indicator: Green LED shall flash when output signal level exceeds -20 dB below clip.
  - Ready Indicator: Green LED, one per channel, shall illuminate when the amplifier is ready to produce audio.
  - Clip Indicator: Red LED, one per channel, shall turn on at the threshold of audible distortion.
  - Thermal Indicator: Red LED, one per channel, shall illuminate under excessive temperature conditions.
  - Power Indicator: Blue LED shall illuminate when the amplifier has been turned on and has power.
- g) The rear panel shall have the following connectors:
- Input Connector: XLR, one per channel.
  - Link/Out Connector: Loop-thru signal from input connector for linking to another amplifier, one per channel.
  - Output Connectors: Two Neutrik Speakon NL4MP (mates with NL4FC) output connectors. Channel 1 Speakon shall be wired with Ch. 1 and Ch. 2 outputs for use with optional single 4 conductor cable.
  - Two binding post outputs (in parallel with Speakon connectors).
- h) HiQnet USB Connector: Connects to a HiQnet network.
- i) The power amplifier shall meet or exceed the following power criteria at 1kHz:
- 2  $\Omega$  Stereo (per channel): 1,000W with 1%THD,
  - 4  $\Omega$  Stereo (per channel): 800W with 0.5% THD,

- 8  $\Omega$  Stereo (per channel): 475W with 0.5% THD,
  - 4  $\Omega$  Bridge-Mono: 2,000W with 1% THD,
  - 8  $\Omega$  Bridge-Mono: 1,600W with 0.5% THD.
- j) The amplifier shall meet or exceed the following performance criteria:
- Voltage Gain at 1kHz, 8  $\Omega$  rated output: 32.9 dB.
  - Frequency Response: +0/-1dB from 20 Hz to 20 kHz at 1 watt into 4  $\Omega$ .
- k) Load Impedance: Safe with all types of loads. Rated for 2-8  $\Omega$  in Stereo mode, 4-16  $\Omega$  in Bridge-Mono mode.
- l) Sensitivity: 1.4V. Signal to Noise Ratio (below rated 1kHz power at 8  $\Omega$ ): 100 dB (A weighted).
- m) Damping Factor: Better than 500 from 20 Hz to 400 Hz. Crosstalk: > 70 dB below rated power, 20 Hz to 1 kHz.
- n) Input Stage: Input shall be electronically balanced and shall employ precision 1% resistors.
- o) Input Impedance (nominal): 20k $\Omega$  balanced and 10 k $\Omega$  unbalanced.
- p) Maximum Input Signal: +22 dBu typical.
- q) Operating Temperature: 0° C to 40° C at 95% relative humidity (non-condensing).
- r) The amplifier shall include Digital Signal Processing with these functions:
- Input EQ: 6 parametric filters per channel with adjustable Q,  $\pm$ 15 dB boost/cut. Also adjustable high and low shelving filters. This 8-filter EQ section shall be able to be bypassed.
  - Crossover Filters: High-pass and low-pass per channel. Butterworth 6/12/18/24 dB per octave. Linkwitz-Riley 24/48 dB per octave. Shall also include  $\pm$ 15 dB band-pass gain and polarity control.
  - Delay: For signal alignment of driver; 50 ms. total delay.
  - Subharmonic Synthesizer: Shall take the low-frequency content of the input signal and “synthesizes” a new signal that is the same as the input signal but one octave lower. The new synthesized signal shall be mixed with the original signal to create the effect.
  - Output Limiter: to prevent clipping.
  - Pre-sets: 20 pre-sets, 19 of which shall be user-definable.
- s) The amplifier shall be safe when driving any kind of load - even highly reactive ones.
- t) AC line voltage and frequency configurations shall be suitable for 240V +/-10%, 50Hz.
- u) The amplifier shall have a rugged steel chassis coated with environmentally friendly powder. v) The amplifier shall be fan-cooled.
- w) The dimensions of the amplifier shall allow for 19 inch (48.3 cm) EIA standard (RS-310-B) rack mounting. The amplifier shall be 8.9 cm tall and 31.11 cm deep behind mounting surface.
- x) The amplifier shall not weigh more than 10 kg.
- y) The amplifier shall be similar or equal to the Crown XTi 2000.

**The following minimum specifications shall apply:**

Description	Specification Requirements
Output Power	800W
Frequency Response	20Hz to 20kHz (+/-1dB)
Distortion	<0.5% at 1kHz 4Ω stereo, 800W
Signal to noise ratio	>100dB
Speaker Outputs	4Ω

**5.3.1.9****1000W Power Amplifier**

- a) The amplifier shall contain all solid-state circuitry, using MOSFET output devices employing Class-D topology with both current and voltage feedback loop circuits.
- b) The amplifier shall incorporate a switch-mode power supply with fast-tracking, power-factor correction circuits that will allow full-rated power from AC outlets ranging from 100 – 240 V, 50/60 Hz.
- c) The amplifier shall include protection from shorted and open loads, general overheating, DC, high-frequency overloads, under/over voltage and internal faults.
- d) The amplifier shall contain eight independent amplifier channels, which can be configured to allocate the 4000 watts total rated output power between 2 and 8 channels.
- e) The amplifier shall contain variable speed fans, which are controlled by software to minimize acoustic noise. Fan airflow will be from the front panel to the rear panel. Rack mounting of multiple amplifiers shall be possible without extra rack spacing for ventilation.
- f) The amplifier shall be capable of continuous operation at 1/3 of rated power into 4-Ω loads, in ambient temperatures up to 40° C.
- g) The typical current draw at 1/3-rated power shall be 7.5 amps at 240 +/-10% VAC.
- h) The power amplifier shall meet or exceed the following performance specifications:
- Input sensitivity for rated output: 0, +4, +12 and +24 dBu, user selectable.
- i) Rated output power, per channel, with all channels driven and 0.4% THD (20 Hz to 20 kHz):
- Mono mode with up to 8 channels, 500 watts into 4 Ω and 300 watts into 8 Ω.
  - Bridge mode with up to 4 channels, 1000 watts into 4 Ω, 8 Ω, or with 100-volt lines (at 1% THD), 800 watts with 70-volt lines (at 1% THD).
  - Current-Share mode with up to 4 channels, 1000 watts into 2 Ω.
  - QuadBridg mode with up to 2 channels, 2000 watts into 4 Ω or with 100-volt lines (at 1% THD), 1600 watts with 70-volt lines (at 1% THD).
- j) Frequency Response (±0.5 dB at 1 watt): 20 Hz to 20 kHz
- k) Signal-to-Noise Ratio (1 dB below rated power, with +24 dBu input sensitivity) 100 dBA Total Harmonic Distortion (1 watt from 20 Hz to 20 kHz): less than 0.4%
- l) Intermodulation Distortion (SMPTE 60 Hz and 7 kHz): less than 0.4%
- m) Channel Separation (adjacent channels at 1 kHz): greater than 65 dB
- n) Damping Factor (10 – 1000 Hz, 4 Ω) greater than 1000

- o) The amplifier shall incorporate eight balanced analogue inputs, with rear-panel mounting and utilizing 3-pin terminal block connectors. The analogue inputs shall support up to +24 dBu input signals.
- p) The amplifier shall support a digital expansion slot capable of receiving and transmitting 8 digital audio channels, using an optional digital expansion card, available in proprietary and industry-standard protocols.
- q) The amplifier outputs shall terminate with 8-pin, high current, terminal-block connectors, which accept 10-22 AWG cables.
- r) The amplifier shall include digital signal processing (DSP) optimized for loudspeaker processing, with 24-bit, 48 kHz operation. The total latency (analogue input to amplifier output) shall be 0.95 msec.
- s) The fixed-block signal processing shall include the following elements for each of the eight channels:
- 5-band parametric input EQ,
  - array LF/mid-band compensation EQ,
  - band pass (crossover) filters,
  - 9-band parametric output EQ,
  - delay, output peak and  $\square$  RMS-average limiter.
- t) A matrix mixer shall be included for routing and attenuation of any input/output combination.
- u) A signal generator supporting tone, noise and sweep functions shall be included, which shall also enable the amplifier to measure and record automated impedance sweeps on any output channel.
- v) The amplifier front panel shall contain a user interface with a 240 x 64 LCD primary display, with LED indicators for signal present, input clipping, output limiting and fault.
- w) Functions accessible from the front-panel interface shall include mute, input sensitivity selection, output attenuation, EQ on/off per channel and loudspeaker processing pre-set recall.
- x) The amplifier shall contain a PC interface with a front-panel USB connection, which will allow amplifier setup, configuration and monitoring using Bose Control Space Designer software.
- y) The network-version amplifier shall also contain a rear-panel Ethernet interface available from an RJ-45 connector or later version input to allow network control and monitoring of multiple network-version amplifiers when using a PC running Bose Control Space Designer software.
- z) The amplifier chassis shall be constructed of steel with a durable black finish. The dimensions of the amplifier shall allow for 19-inch (483 mm) EIA standard rack mounting.
- aa) The amplifier shall be not more than 90mm in height and 550mm in depth. The amplifier shall not weigh more than 15kg.
- bb) The amplifier shall be similar or equal to the Bose PM8500N.
- cc) Tenderers shall provide a separate quotation for the non-networked version, similar or equal to the Bose PM8500, in their covering letter.

**The following minimum specifications shall apply:**

Description	Specification Requirements
Output Power	1000W
Frequency Response	20Hz to 20kHz (+/-1dB)
Distortion	<0.5% at 1kHz 4Ω, 1000W
Signal to noise ratio	>102dB
Speaker Outputs	4Ω, 8Ω, and 100V line
Integrated DSP	24-bit / 48kHz
Total Latency	<0.95ms
Input to output signal routing	8 x 8 matrix

**5.3.2****Line Modules****5.3.2.1****Microphone/Line Input Module**

- a) The Microphone/Line Input Module shall have 4 channels which shall be selectable for microphone or Line.
- b) The microphone input shall cater for -50/-36dB, with input impedance 2.6kΩ and shall be electronically balanced.
- c) The line input shall be electronically balanced and cater for -10dB to +4dB input signals, with impedance between 2.6kΩ and 7kΩ.
- d) The connectors shall be XLR-3-31 or equivalent.
- e) Phantom power supply (48V DC) shall be available when set for the Microphone.
- f) The unit shall have a ground lift switch.
- g) The A/D converter shall be 24 bit.
- h) The total harmonic distortion should be less than 0.008% at +4dB input.
- i) The unit offered shall be similar or equal to the TOA D-2000AD1.

**The following minimum specifications shall apply:**

Description	Specification Requirements
Number of Channels	4, XLR connectors
A/D Converter	24 bit
Phantom power supply	48V
Distortion	<0.01%

**5.3.2.2****Line Output Module**

- a) The Line Output Module shall have 4 channels which shall be selectable as +4dB or -10dB with an adaptable load of 600Ω or more.
- b) The output shall be settable to electronically balanced or unbalanced.
- c) The connectors shall be XLR-3-32 or equivalent.
- d) The D/A converter shall be 24 bit.
- e) The total harmonic distortion should be less than 0.008%.
- f) The unit offered shall be similar or equal to the TOA D-2000DA1.

**The following minimum specifications apply:**

Description	Specification Requirements
Line Output Module	Tenderer to state make and model number
Number of Channels	4, XLR connectors
D/A Converter	24 bit
Distortion	<0.01%

**5.3.2.3****Dual Microphone/Line Input Module with DSP**

- a) The Dual Microphone/Line Input Module with DSP shall be a plug-in module designed for use with the 9000 Series amplifiers and shall provide two independent balanced inputs.
- b) The module shall handle signals ranging from microphone level to line level by controlling their input sensitivity in 9 increments from -60dB to -10dB.
- c) Phantom power (+24V) shall be supplied for condenser microphone use.
- d) The unit shall have digital signal processing for the two inputs independently. This shall include 10 band parametric EQ, Bass / treble, loudness, high pass / low pass filters and compression.
- e) The offered shall be similar or equal to the TOA D-001T.

**The following minimum specifications apply:**

Description	Specification Requirement
Inputs	2 balanced microphone / line
Digital Signal Processing	10-band parametric EQ Bass / treble Loudness High pass / low pass filters Compressor
Sensitivity	Adjustable -60 to -10dB, 9 steps
Phantom Power	24VDC

**5.3.3****Racks, Brackets, Stands and Frames****5.3.3.1****Racks for amplifiers and ancillary equipment**

- a) The tenderer shall provide a 42U 19" rack to house the amplifiers and ancillary equipment.
- b) The rack shall be equipped with fans and power rails to accommodate the anticipated equipment for a large hall where a number of amplifiers would be deployed.
- c) The unit offered shall be similar or equal to the TOA RCK-001.
- d) Tenderers may provide optional pricing for smaller racks and accessories in their covering letter.

**5.3.3.2****Rack mount bracket kit for mounting two WT-5800 receivers**

- a) The Rack mount bracket kit shall be designed to mount two WT-5800 receivers side by side.
- b) The units offered shall be similar or equal to the TOA MB-WT4
- c) Tenderers shall provide a prices in their covering letter for a single unit bracket similar or equal to the TOA MB-WT3.

**5.3.3.3 Microphone Stand**

- a) The Microphone Stand shall be a boom stand and shall be similar or equal to the Hercules MS533B.
- b) The stand shall include the tripod base, boom clamp, boom retainer and adaptor for instant microphone attachment

**5.3.3.4 Speaker Brackets and Stands.**

- a) The following speaker brackets and stands shall be provided: -
- Wall Mount Bracket (0-45° pitch, ± 40° yaw)
  - Single Fly Bracket (0-45° pitch)
  - Stacked Pair Fly Bracket (0-45° pitch)
  - Speaker Stand with Mounting Adapter and Carry Bag
- b) Tenderers shall provide details and costings of all brackets, frames and stands for the equipment offered.

**5.3.4 Power Devices****5.3.4.1 Emergency Power Supply Control Unit and Power Supply**

- a) The Emergency Power Supply Unit shall supply DC power to each piece of equipment in the emergency evacuation system.
- b) It shall keep the battery 2 × 12 V sealed lead batteries charged compensating for the temperature of the battery charging voltage.
- c) When the DC power supply from the power supply stops, the unit shall switch automatically to the backup battery.
- d) The Emergency Power Supply Units shall meet the technical specifications as specified in **the relevant section in section (5) Specifications**.
- e) The units offered shall be similar or equal to the TOA VX-2000DS and VX-200PS respectively.
- f) Tenderers shall provide separate pricing in their covering letter for optional modules and the recommended 65Ah batteries

**The following minimum specifications apply:**

Description	Specifications
<b>Emergency Power Supply Control unit</b>	
Battery	24V (2 x 12V)
Charging Current	5A (max)
Charging voltage	27.3V +/- 0.3V 25 C
EN 54-4 certified	Yes
<b>Emergency Power Supply</b>	
Rated Output	210W (29V, 7.5A) x 2
Peak Output	400W
Operating Temperature	0 to +40 C
EN 54-4 certified	Yes

## 5.3.4.2

**UPS**

- a) The UPS shall be voltage and frequency independent and designed for mission-critical applications. They shall be suitable for mounting in 19inch racks.
- b) When batteries need to be replaced it shall be possible to do so without disconnecting from the load.
- c) The backup time shall exceed 15 minutes at 50% load and 8 minutes at 75% load.
- d) The 1kVA UPS shall be similar or equivalent to VH1000.
- e) The 3kVA UPS shall be similar or equivalent to VH3000.
- f) Installation and Maintenance Costs must be included to enable the total cost of an installation of a system at a site to be supported by a PLA. The unit costs will also be used to calculate costs when undertaking second-line maintenance on behalf of the City.
- g) Tenderers should include in their covering letter items un-intentionally excluded from "The Pricing Schedule" for consideration. The unit prices will be used to determine the total cost of supply and installation per site.

**The following minimum specifications apply**

Description	Specification Requirements
<b>1KVA UPS</b>	
Rating	1000VA / 700W
Format	Tower/Rack
Input voltage range (70 % load)	130-380 (Vac)
Input frequency	45 - 66 Hz
Back up time at 50% /75% load	> 20/10 min.
Output power factor	1 at standard load (70%)
Output voltage	240V +/- 2%
Output frequency	50Hz
Number of IEC 320 outlets	4
DC Connector	Available
Dimensions	440 (19") x 87 (2U) x 472 mm
Net weight incl. battery	< 19kg
Operating temperature	0 to 40°C
Audible noise	< 45 dB(A)
Communication Interface	RS232, USB, Open collector alarm contacts, SNMP
<b>3KVA UPS</b>	
Rating	3000VA / 2100W
Format	Tower/Rack
Input voltage range (70 % load)	130-380 (Vac)
Input frequency	45 - 66 Hz
Back up time at 50% /75% load	> 15/8 min.
Output power factor	1 at standard load (70%)
Output voltage	240V +/- 2%
Output frequency	50Hz
Number of IEC 320 outlets	6 and 1 x 16A
DC Connector	Available
Dimensions	440 (19") x 87 (2U) x 547 mm

<b>3KVA UPS</b>	
Net weight incl. battery	< 35kg
Operating temperature	0 to 40°C
Audible noise	< 45db(A)
Communication Interface	RS232, USB, Open collector alarm contacts, SNMP

### 5.3.4.3 24V Power Supply Unit

- a) The 24V power supply unit shall be used to power equivalent units to the TOA RM-200MS and RM-200MSV.

**The following specifications apply:**

<b>Description</b>	<b>Specification Requirements</b>
Power Source	240 V, AC 50Hz
Output	24 V DC, 1 A
Current Consumption	450 mA (rated output)
Operating Temperature	0°C to +40 °C
Finish	Case: Heat-resistant resin, black

### 5.3.5 Signal Processors

#### 5.3.5.1 Signal Processor with audio bus

- a) The Networked Signal Processor (NSP) shall have a fixed configuration of 12 inputs and 8 outputs, configurable signal processing and a high bandwidth, fault tolerant digital audio bus.
- b) The NSP shall be configurable with open architecture software. The unit shall have a “drag and drop” method of configuration and provide a simple and familiar control and design environment.
- c) This processor shall have a low latency, fault tolerant digital audio bus of 48 channels which uses standard Category 5e cabling giving a distance of 100m between compatible devices.
- d) The unit shall be compatible with the installed audio system.
- e) Analog Inputs shall provide software configurable gain in 6dB steps up to +48dB per channel and software selectable Phantom Power per channel.
- f) Phantom Power, Signal Present and Clip information per channel shall be easily accessible, without the requirement for a PC, from clear front panel LED indication. A bi-directional locate function shall enable devices to be identified within the open architecture software.
- g) Twelve Control Inputs and 6 Logic Outputs shall be provided to enable allow the unit to be integrated with GPIO compatible devices.
- h) The unit shall be similar or equal to the BLU 100.

**The following specifications apply:**

<b>Description</b>	<b>Specification</b>
Front Panel Led Indicators per input	Signal Present, CLIP, 48V
Other Front Panel Led Indicators	COM, STAT, ERR, PWR
Analog Inputs	12 electronically balanced on Phoenix/Combicon removable screw connectors

Description	Specification
Mic/Line Inputs	Nominal gain 0dB, electronically switchable up to +48dB, in +6dB steps
Input Impedance	3.5k $\Omega$
Maximum Input Level	+20dBu with 0dB input gain, +8dBu with 12dB gain
CMRR	>75dB at 1KHz
Input Noise (E.I.N.)	<-128dBu typical with 150 $\Omega$ source
Phantom Power	48V nominal, selectable per input
A/D Latency	<0.8ms@48k
Analog Outputs	8 electronically balanced on Phoenix/Combicon removable screw connectors
Maximum Output Level	+19dBu
Frequency Response	20Hz-20KHz (+0.5dB/-1dB)
THD	<0.01% 20Hz to 20KHz, +10dBu output
Dynamic Range	108dB typical, 22Hz-22KHz unweighted
Crosstalk	<-75dB
Output Impedance	40 $\Omega$ balanced and 20 $\Omega$ unbalanced
D/A Latency	0.60ms at 48kb
Control Ports	12 inputs and 6 outputs
Control Input Voltage	0 to 4.5v
Control Input Impedance	4.7k $\Omega$ to +5V (2-wire mode), >1M $\Omega$ (3-wire mode)
Logic Output Voltage	0 or +5V unloaded
Logic Output Impedance	440 $\Omega$
Logic Output Current	10mA source, 60mA sink
Watchdog Output	Phoenix/Combicon connector for failsafe control
Operating Output Current	14mA maximum
Withstanding Voltage	80V maximum (Off)
Series Impedance	220 $\Omega$ (isolated)
Control Network Connectors	RJ45 Ethernet connector
Maximum Cable Length	100m on Category 5 cable between device and Ethernet switch
Number of Nodes	60 (Max)
Latency	<0.25ms@48k
Pass Through Latency	<0.10ms@48k
Mains Voltage	240V AC, 50Hz
Power Consumption	<55VA
BTU Rating	<188 BTU/hr
Operating Temp. Range	5 to 35 C
Safety	IEC 60065
EMC	EN 55032

## 5.3.6 Digital Mixers

### 5.3.6.1 Digital Mixing Processor Unit

- a) The Digital Mixing Processor Unit shall have up to 32 audio inputs and outputs in total, and to be mounted in an EIA standard equipment rack (3U size).
- b) The unit shall have a built-in signal processing function to enable the unit to be used as both a mixer and a signal processor.
- c) Its audio input/output and control ports shall accept optional plug-in modules to enable the unit to have a maximum of 32 inputs or 32 outputs and up to 2 control modules.
- d) Each function shall be set by the dedicated setting software on a PC. Setting contents shall be stored in the unit's internal memory as pre-set memory, which can be recalled by the unit without using a PC.
- e) A remote module shall remotely control the unit's basic operations such as volume control.
- f) The unit shall be similar or equal to the TOA D-2008SP and shall meet or exceed technical specifications provided.
- g) Tenderers shall provide unit prices for all modules in their covering letter.

**The following minimum specifications apply:**

Description	Specification
Power Source	240V AC, 50Hz
Power Consumption	76W
Frequency Response	20Hz - 20kHz, $\pm 1$ dB (+4dB input)
Sampling Frequency	48kHz
Input	Max. 32 channels
Output	Max. 32 channels
Monitor bus	1 stereo input, 1 stereo output
Input/ Output Connectors	RJ45
Input/ Output Connection Cables	Shielded category 5 or higher twisted pair LAN cable (CAT5-STP)
Headphone output	Stereo
Feedback Suppression Function	12 filters (auto + dynamic), maximum 4 bus channels
Auto-Mixing Function	Ducker (automatic muting), NOM attenuation
Auto-Mixing Group	4 groups
Compressor Threshold	-20 to +20dB (1dB steps)::, Release time:: - - +10 dB: hard knee, soft knee 1, soft knee 2 (Compressor mode)
Compressor Ratio	1:1, 1.1:1, 1.2:1, 1.3:1, 1.5:1, 1.7:1, 2:1, 2.3:1, 2.6:1, 3:1, 4:1, 5:1, 7:1, 8:1, 10:1, 12:1, 20:1
Compressor Attack time	0.2 ms - 5s
Compressor Release time	10ms – 5s
Compressor Gain	+10 dB
Compressor Knee type	hard knee, soft knee 1, soft knee 2
Auto-Leveller Target level	-20 to +10dB (1dB steps)
Auto-Leveller Maximum gain	0 to +20dB (1dB steps)

Description	Specification
Auto-Leveller Attack time	10ms - 10s
Auto-Leveller Release time	100ms - 10s
Output Delay	Delay time: 0 - 1360 ms (0.021 ms steps)
BUS Delay	Delay time: 0 - 677 ms (0.021 ms steps)
Matrix Input	Max. 34 ( 32 + 2 ) channels × 24 buses,
Matrix Output	Max. 44 (24 + 4 + 16) buses × 32 channels

### 5.3.6.2 Remote Digital Mixing Console Unit

- a) The Remote Digital Mixing Console Unit shall be a 6U rack mountable unit for use of the Digital Mixing Processor Unit.
- b) When assigned to any selected channels inside the Digital Mixing Processor by the dedicated software, the unit's 12 motorized faders and 8 rotary encoders shall remotely adjust their volumes.
- c) The unit shall have selectable pre-set memories which can be recalled using 8 function keys.
- d) The unit shall be equipped with 1 channel line input (stereo), which allows the audio signal to be transmitted to the Digital Mixing Processor via monitor bus. Audio signals inside the processor shall be monitored via monitor bus using the headphones connected to a stereo headphone output.
- e) The unit shall be similar or equal to the TOA D-2012C and shall be supplied with the D-2012AS console case.

#### The following specifications apply:

Description	Specification
Power Consumption	18W
Volume Adjustment	100 mm motorized fader x 12 Rotary encoder x 8
Line Input	Line Input 1 channel (stereo), +10 to -20dB, 10kΩ, unbalanced, RCA Pin-jack
Headphone Output	Stereo 100mW + 100mW (32 Ω load), standard stereo jack
Monitor Bus	1 stereo input, 1 stereo output
Connector	RJ45 connector
Connection cable	Shielded twisted pair (STP) Cat 5 or higher LAN cable (2 pairs of data lines)
Maximum cable distance	100m
LAN Network I/F	10BASE-T/100BASE-TX
Network protocol	TCP/IP
Connection cable	Shielded twisted pair (STP) Cat 5 or higher LAN cable
Control RS-232C for maintenance use	Control RS-232C: D-sub connector (9 pins)

**5.3.6.3 Remote Control Module for Digital Mixer**

- a) The remote control module shall be compatible with the Digital Mixer.
- b) It shall enable pre-set memory recall, input/output channel volume control, stereo input selection and channel ON/OFF operation to be remotely controlled from external equipment.
- c) It shall be possible to recall any pre-set memory. The control method: No-voltage make of over 100ms.
- d) Any input/output channel volume shall be turned Up or Down. The control method:
- 1 step variation for no-voltage make single pulse of over 100ms; `
  - 1 step continuous operation for every 70ms for no-voltage make of over 100ms.
  - Shall be resettable when at break. The variable range:  $-\infty$  dB to +10 dB.
- e) It shall be possible for any input/output channel to be turned on and off. The control method:
- No-voltage make of over 100ms/no-voltage make single pulse of over 100ms.
- f) The unit offered shall be similar or equal to the TOA D-981.

**The following specifications apply:**

Description	Specification
Contact Input	COM + Terminals 1 - 8: Open voltage: 5 V DC, short-circuit current: 5 mA
Pre-set Memory Selection	Any pre-set memory shall be recalled. Control method: No-voltage make of over 100ms
Volume Control	Any input/output channel volume shall be turned UP or Down.
Control method	1 step variation for no-voltage make single pulse of over 100ms, 1 step continuous operation for every 70 ms for no-voltage make of over 100ms. Shall be resettable when at break.
Variable range	$-\infty$ dB to +10 dB
Channel selection	Any input/output channel shall be turned ON and OFF

**5.3.6.4 Modular Digital Matrix Mixer**

- a) The Modular Digital Matrix Mixer shall be used in conjunction with optional modules which can be configured for up to 8 inputs and 8 outputs. The most appropriate modules shall be selected depending on applications.
- b) It shall be equipped with signal processing and control functions necessary for sound reinforcement, permitting all parameters to be set at the mixer.
- c) Settings data shall be stored inside the unit and called up using the keys on the front panel.
- d) The unit shall be similar or equal to the TOA A-9060DH and shall meet or exceed technical specifications provided.
- e) Tenderers shall provide unit prices for all modules in their covering letter.

**The following specifications apply:**

Description	Specification
Audio Input	Max. 8 channels, modular construction
Audio Output	0dB, 300 $\Omega$ , balanced
Frequency Response	20Hz - 20kHz, +0, -1dB
Total Harmonic Distortion	<0.01 %
S/N Ratio	At Input short, 20Hz - 20kHz, set to ALL FLAT or OFF setting Output volume min.: 90 dB Output volume max.: 61 dB (Input 1 volume: 0 dB, Other Inputs: OFF)
Cross Talk	64 dB or more (at 20 kHz)
Tone Control	Bass: $\pm 12$ dB (at 100 Hz) Treble: $\pm 12$ dB (at 10 kHz)
Parametric Equalizer	10 bands, Frequency: 20Hz - 20kHz, 31 points, Variable range: $\pm 12$ dB, Q: 0.3 - 5
Speaker Equalizer	10 speaker pre-sets
Low-pass Filter	-12dB/oct, Variable frequency range: 4kHz - 20kHz, 31 points
Compressor Depth	1 - 5
Delay	0 - 40ms (1ms steps), maximum 40ms
Scene/Event Memory	32
Auxiliary Function	Key lock function

**5.3.7 Analog Mixers**

Current installed equipment was supplied by Yamaha and it is the City's requirement to be supply with the same OEM equipment or of same or higher specifications

- a) The Analog Mixer shall possess knob compressors for dynamics control and have capability of allowing sound-shaping.
- b) There shall be a pad switch on mono inputs for managing loud sources.
- c) The unit shall be at least USB 2.0 compliant for recording and playback with computers and tablets.
- d) The unit shall have at least 24 editable digital effects.
- e) The unit shall have a Metal chassis.
- f) The unit shall be similar or equal to the Yamaha MG16XU mixer.

**The following minimum specifications apply:**

Description	Specification Requirements
Type	Analog
Channels	16
Computer Connectivity	USB (2 x 2)
Faders	16 Faders
Inputs	8 x XLR/TRS Combo, 2 x XLR, 4 x TRS
Phantom Power	12V
Outputs	2 x XLR, 4 x TRS
Headphones	1 x 1/4"
Busses/Groups	4 x Type B
Rack mountable	Yes

### 5.3.8 Microphones and Radio Receivers

#### 5.3.8.1 TOA Wireless Microphones and Receiver (TOA or Equivalent is required)

- a) The Wireless Microphones shall employ an electret condenser microphone Cardioid capsule. The system shall be ICASA approved.
- b) The handheld microphones, wireless transmitter and portable receivers shall be powered by rechargeable batteries which shall enable the units to be used for 13 hours continuously before requiring a recharge.
- c) The UHF wireless transmitter shall be capable of operation with various microphones including unidirectional and omnidirectional lavalier and headset microphones.
- d) The wireless microphone shall be suitable for speech and shall be similar or equal to the TOA WM 5225. It shall meet or exceed technical specifications as specified.
- e) The wireless microphone - headset shall be similar or equal to the TOA WM-4000H and shall meet or exceed technical specifications as specified in the table directly below. It shall include the UHF wireless transmitter TOA WM-5325.
- f) The wireless handheld microphone shall be suitable for vocals and shall be similar or equal to the TOA WM 5270. It shall meet or exceed technical specifications as specified in the table directly below.
- g) The wireless receiver shall have true diversity circuitry and provide coverage up to 120 metres and shall be similar or equal to the TOA WT-5810. It shall meet or exceed the provided technical specifications.
- h) Tenderers shall provide a pricing schedule in their covering letter for other types of microphones and accessories available in the range.

#### The following specifications apply for TOA wireless microphones:

Description	Specification
Microphone Element	Electret condenser microphone: Cardioid
Frequency Range	Shall be ICASA approved.
Channel Selectable	64 channels
Maximum Input Level	126dB SPL
Battery	Ni-MH (WB-2000)

#### The following specifications apply for TOA wireless microphone headset:

Description	Specification
Microphone Element	Electret condenser Unidirectional
Sensitivity	-66dB +/-3 dB
Maximum Input Level	120dB SPL
Cord length	1.3m
Connector	ø3.5mm mini plug
Frame finish	Stainless, black (silicon rubber)

#### The following specifications apply for TOA wireless handheld microphone:

Description	Specification
Microphone Element	Dynamic microphone: Cardioid
Frequency Range	Shall be ICASA approved.
Channel Selectable	64 channels
Maximum Input Level	142dB SPL
Battery	AA

**The following specifications apply for TOA wireless receiver:**

Description	Specification
Receiving Frequency	Shall be ICASA approved.
Channel Selectable	16 selectable frequencies
Receiving System	Double super-heterodyne
Diversity System	Space diversity (true diversity)
Mixing Output	Mic/Line (selectable) Mic: -60dB Line: -20dB, 600Ω Phone jack (unbalanced), 600Ω XLR-3-32 type connector (balanced)
Mixing Input	-20dB, 10 kΩ, unbalanced, phone jack
Antenna Input	75Ω, BNC (phantom powering for antenna), 9VDC, 30mA (max)
Antenna Output	75Ω, BNC (Gain 0dB)
Receiving Sensitivity	90dB or more, Signal to Noise ratio (20dBμV input, 40kHz deviation)
Channel Check	Usable frequencies scanning
Signal to Noise Ratio	104dB or more (A-weight, unbalanced output)
Harmonic Distortion	1% or less (typical)
Frequency Response	40Hz - 16kHz, ±3dB

**5.3.8.2****Microphone and Receiver**

- a) The wired handheld microphone shall be a high performance super-cardioid vocal microphone with hum compensation coil, a frequency response of 40 Hz – 16kHz, sensitivity of 1.8mV/Pa at 1 kHz and nominal impedance of 350Ω.
- b) The handheld wireless microphones shall use a dynamic cardioid microphone capsule with a frequency response of 80 Hz – 18kHz, sensitivity of 2.5mV/Pa and a Signal-to-Noise ratio of >110dB(A). The microphone and receiver system shall be ICASA approved.
- c) The handheld microphones, wireless transmitter and portable receivers shall be powered by rechargeable batteries which shall enable the units to be used for 8 hours continuously before requiring a recharge.
- d) The UHF wireless transmitter shall be capable of operation with various microphones including unidirectional and omnidirectional lavaliers and headset microphones.
- e) The wired microphone shall be suitable for vocals and shall be similar or equal to the Sennheiser Evolution E 845. It shall meet or exceed specifications.
- f) The wireless microphone shall be suitable for vocals and shall be similar or equal to the Sennheiser EW100-935. It shall meet or exceed specifications.
- g) The wireless lapel microphone shall be similar or equal to the Sennheiser MKE 2 and shall meet or exceed technical specifications. It shall include the UHF wireless transmitter.
- h) The wireless receiver shall have true diversity circuitry with sensitivity of less than 2.5μV and shall be similar or equal to the Sennheiser EM100-G3. It shall meet or exceed the provided technical specifications.
- i) Tenderers shall provide a pricing schedule in their covering letter for other types of microphones and accessories available in the range.

**The following specifications apply for wired microphone:**

Description	Specification
Microphone Element	Super-Cardioid Vocal
Frequency Response	40Hz - 16kHz
Sensitivity	1.8mV/Pa
Nominal impedance	350Ω
Dimensions (Diameter x length)	Ø 46 x 185mm
Weight	<340g

**The following specifications apply for wireless hand held microphone:**

Description	Specification
Frequency response (microphone)	40Hz - 18kHz
Compander	HDX
Audio connector	XLR
Pre-sets	12
Microphone	Dynamic, cardioid
Sound pressure level (SPL) max	154dB
THD, total harmonic distortion	< 0,9%
Weight	450g
Description	Specification
Pick-up pattern	cardioid
AF sensitivity	2.5mV/Pa
Signal-to-noise ratio	> 110dB(A)
RF frequency range	Shall be ICASA approved.
RF output power	10mW
Transmission/receiving frequencies	1 500
Switching bandwidth	15MHz
Peak deviation	+/- 48kHz
Operating time	>8 h
Antenna connector	2 BNC, 50 Ω
Audio output level (balanced)	XLR: +18 dBu max
Audio output level (unbalanced)	Jack: +10 dBu max

**The following specifications apply for wireless lapel microphone and transmitter:**

Description	Specification
Transducer	Pre-polarised condenser microphone
AF sensitivity	5mV/Pa
Sound pressure level (SPL)	142dB(SPL) max.
Pick-up pattern	Omni-directional
Frequency response	80Hz -18kHz
RF output power	30mW
RF frequency range	Shall be ICASA approved.
Compander	HDX
Signal-to-noise ratio	> 110dB(A)
Switching bandwidth	42MHz
Operating time	8h

**The following specifications apply for microphone receiver:**

Description	Specification
Diversity reception	True Diversity
Antenna connector	2 x BNC, 50Ω
Frequency response (microphone)	25Hz to 18kHz
Compannder	HDX
Pre-sets	12
Total harmonic distortion	< 0.9%
Signal-to-noise ratio	> 110dB(A)
RF frequency range	Shall be ICASA approved.
Transmission/receiving frequencies	1680
Switching bandwidth	42MHz
Peak deviation	+/- 48kHz
Audio output level (balanced) XLR:	+18dBu max
Audio output level (unbalanced) Jack:	+12dBu max

**5.3.8.3****Shure Microphone and Receiver (Shure or equivalent required)**

- a) The wired microphone shall be a Cardioid dynamic vocal microphone with a frequency response of 50 Hz – 15kHz, sensitivity of 1.85 mV/Pa at 1 kHz and nominal impedance of 150Ω.
- b) The Wireless handheld microphone shall be a Cardioid dynamic vocal microphone with the same specification as the wired microphone. The transmitter shall be ICASA approved.
- c) The wireless microphones, transmitter and portable receivers shall be powered by rechargeable batteries which shall enable the units to be used for 8 hours continuously before requiring a recharge.
- d) The wired microphone shall be suitable for vocals and shall be similar or equal to the Shure SM58 and shall meet or exceed the provided technical specifications.
- e) The wireless handheld microphone shall be suitable for vocals and shall be similar or equal to the Shure SM58 with transmitter and shall meet or exceed the provided technical specifications.
- f) The wireless lapel microphone shall be similar or equal to the Shure WL185 and shall meet or exceed the described technical specifications and include the wireless transmitter.
- g) The wireless receiver shall have true diversity circuitry with -105dBm sensitivity and shall be similar or equal to the Shure PGDX4 and shall meet or exceed the provided technical specifications.
- h) The condenser microphone shall be suitable for choir and instruments and shall have a frequency response of 40Hz to 18kHz, sensitivity of -48dBV/Pa. The unit shall be similar or equal to the Shure PG81 and shall meet or exceed the provided technical specifications.
- i) Tenderers shall provide a pricing schedule in their covering letter for other types of microphones and accessories available in the range including the Shure PG30TQG wireless headset microphone.

**The following specifications apply for Shure dynamic hand held microphone:**

Description	Specification
Type	Dynamic
Frequency Response	50Hz to 15kHz
Polar Pattern	Cardioid
Sensitivity	-54.5dBV/Pa (1.85mV) 1Pa = 94dB SPL
Impedance	150Ω (rated)
Connector	male XLR

**The following specifications apply for Shure wireless microphone with transmitter:**

Description	Specification
Type	Dynamic
Frequency Response	50Hz to 15kHz
Polar Pattern	Cardioid
Sensitivity	-54.5dBV/Pa (1.85mV)
Carrier frequency range	Shall be ICASA approved.
RF Transmitter Output	30 mW maximum
Selectable frequencies	90
Compatible systems per frequency band	8
Battery Life	>8 hours (alkaline)

**The following specifications apply for Shure wireless lapel microphone with UHF wireless transmitter:**

Description	Specification
Type	Condenser
Frequency Response	50Hz to 17kHz
Polar Pattern	Cardioid
Sensitivity	-35dBV/Pa / 17mV/Pa
Carrier frequency range	Shall be ICASA approved.
RF Transmitter Output	30mW maximum
Audio Input Level	-10 dBV at "mic" gain position +10 dBV at 0dB gain position +20 dBV at -10dB position
Input Impedance	1MΩ
Battery Life	>8 hours (alkaline)

**The following specifications apply for Shure receiver:**

Description	Specification
Carrier frequency range	Shall be ICASA approved.
Sensitivity	-105 dBm for 12 dB SINAD
Image Rejection	>70dB
Audio Output Level (XLR connector into 600Ω load)	-19dBV

**The following specifications apply for Shure Condenser microphone:**

Description	Specification
Type	Condenser
Frequency Response	40Hz to 18kHz
Polar Pattern	Cardioid
Sensitivity	-48dBV/Pa / 4mV/Pa
Equivalent Self-noise	20dB(A)
Sound Pressure	131dB

**5.3.8.4****Lecturn Microphone (Crown or equivalent required)**

- a) The Lecturn microphones shall be gooseneck microphones specifically designed for lecterns, pulpits or similar applications.
- b) The microphones shall be a professional microphone and shall be an electret condenser type with a super cardioid pickup pattern and shall reject more background noise, room reverberation, and feedback than a typical cardioid microphone.
- c) They shall have a built-in electronics module with an XLR connector. It shall plug directly into a female 3-pin XLR-type panel connector.
- d) The microphones shall have a total length of 55.9 cm.
- e) The microphones shall have a smooth, wide-range frequency response for natural reproduction of the singing or speaking voice. Very low frequencies shall be filtered out to reduce pickup of mechanically induced noise, room rumble, etc.
- f) The gooseneck shall adjust silently.
- g) The microphones shall be supplied with a WS-9 foam pop filter. Its two-stage design shall reduce explosive breath sounds.
- h) A low-cut switch built into the electronics housing shall further reduce breath pops and handling noise.
- i) The microphone output shall be a male 3-pin XLR type connector and shall be balanced, low impedance, to allow long cable runs without hum pickup or high-frequency loss.
- j) RFI protection shall be provided.
- k) The microphones shall operate with phantom power between 12-48V.
- l) The microphone shall be suitable for speech and shall be similar or equal to the Crown Lecturn microphone, LM300AL and shall meet or exceed the provided technical specifications.

**The following specifications apply:**

Description	Specification
Type	Unidirectional condenser.
Element	Electret condenser
Frequency response	80Hz to 15kHz
Polar pattern	Super-cardioid
Impedance	150Ω, balanced
Open-circuit sensitivity	6mV/Pascal (-44.5dBV/Pascal)
Power sensitivity	-42dBmW/Pascal.
Equivalent noise level	28dB SPL A-weighted.

Description	Specification
S/N ratio	66dB at 94dB SPL.
Maximum SPL	120dB SPL produces 3% THD.
Polarity	Positive pressure on the diaphragm produces a positive voltage on pin 2 with respect to pin 3 of the output connector.
Operating voltage	Phantom power, 12 to 48VDC, positive voltage on pins 2 and 3 with respect to pin 1 of the output connector.
Current drain	3.5mA.
Connectors	3-pin male XLR type in electronics interface.
Safe operating temperature range	-10° to +50° C,
Materials	Steel housing and gooseneck.
Finish	Black

### 5.3.8.5

#### Paging Microphone

- a) The paging microphone shall be a desktop unit with push-to-talk switch with locking lever or open-off type switch contact.
- b) The unit shall have a cardioid polar pattern and dynamic microphone capsule.
- c) The microphone shall be suitable for announcements and shall be similar or equal to the TOA PM 660D and shall meet or exceed the provided technical specifications.

#### The following specifications apply:

Description	Specification
Type	Desktop moving coil microphone.
Polar Pattern	Cardioid (Unidirectional).
Output Impedance at 1kHz	600 $\Omega$ , unbalanced.
Rated Sensitivity	-58dB (1kHz, 0dB=1V/Pa)
Frequency Response	100Hz to 10kHz
Cable	Single shielded cable.
Cable Length	2.5m
Terminal of Cable	1/4" unbalanced phone plug.
Talk Switch	Push to talk type (short-off circuit with lock lever).

### 5.3.8.6

#### Dynamic vocal microphone

- a) Transducer type: Dynamic
- b) Transmission type: Wired
- c) Polar pattern microphone: Super-cardioid
- d) Microphone frequency response: 30 – 18000 Hz
- e) Connection: XLR
- f) Shall be equal or similar to the TGV35ds

**The following specifications apply:**

Description	Specifications
Transducer type	Dynamic
Polar pattern	Super-cardioid
Frequency response	30 – 18 000 Hz
Rear attenuation	1 kHz, > 20 dB at 140°
Open circuit voltage	1 kHz, 2.5 mV/Pa = -52 dBV
Nominal impedance	600 Ω
Connection	3-pin XLR

**5.3.8.7****Lavalier System**

- a) Shall consist of cardioid condenser Lavalier microphone, transmitter and receiver.
- b) The system shall allow wireless use exceeding 10 hours.
- c) The system shall be expandable depending on user requirements.

**The following specifications apply:**

Description	Specification
Simultaneous Channels	Up to 12
Frequency Range	ICASA approved
Frequency Response	50Hz – 15 kHz
Channel Selection	Auto

**5.3.9****Speakers****5.3.9.1****6W Ceiling Speakers**

- a) The ceiling speakers shall be designed to be flush mounted in thin ceilings and shall be supplied complete with matching transformer, spring clamps and push-in connectors for the speaker cables.
- b) The speaker shall be suitable for announcements and shall be similar or equal to the TOA PM 660D and shall meet or exceed the required specifications.

**The following specifications apply:**

Description	Specification
Rated Input	6W (100V line)
Rated Impedance	100V line: 1.7 kΩ
Sensitivity	90dB (1W, 1m)
Frequency Response	100Hz – 18kHz

**5.3.9.2****Horn Speakers**

- a) The 15W horn speaker shall be suitable for mounting outdoors and shall have an IP65 rating. It shall be similar or equal to the TOA SC-615M and shall meet or exceed the required technical specifications.

**The following specifications apply:**

Description	Specification
Rated Input	15W
Line Voltage	100V line
Rated Impedance	100V line: 670 Ω (15 W)
Sound Pressure Level	112dB, (1W / 1m at 500Hz to 2.5kHz peak level).

Description	Specification
Frequency Response	280Hz – 12.5kHz
Sensitivity when used as Microphone	(0dB = 1mW/10 dynes/cm <sup>2</sup> ) -22 dB at 1kHz
IP Grade	IP65

b) The 30W horn speaker shall be suitable for mounting outdoors. It shall be similar or equal to the Bosch LBC 3406/16 with LBN 9001/00 driver and shall meet or exceed the required specifications

**The following specifications apply:**

Description	Specification
Sound pressure level at rated power/1 W(1kHz, 1m) with driver	127 / 110dB (SPL)
Frequency range(-10 dB) with driver	300Hz to 8kHz
Opening angle at 1 kHz/4 kHz (-6 dB)	100° / 35° horizontal 65° / 30° vertical

### 5.3.9.3 Wall Mount Weather-Resistant Speaker

a) The 30W wall mount weather-resistant speaker shall be suitable for mounting outdoors and shall have an IP64 rating.

b) It shall be similar or equal to the TOA CS-304 and shall meet or exceed technical specifications as specified below.

**The following specifications apply:**

Description	Specification
Rated Input	30W
Rated Impedance	100 V line : 330 Ω (30 W)
Sound Pressure Level	98 dB (1 W, 1 m)
Frequency Response	120Hz – 15kHz
Horizontal Directivity	Constant directivity horn 90° (± 45° horizontal from front axis)

### 5.3.9.4 Compact Speaker System

a) The Compact Speaker System shall be configured by vertically stacking four speaker modules with a total driver complement of four woofers and 12 tweeters positioned along the baffle surface.

b) This configuration shall allow the variable directivity control and low-frequency dispersion control comparable to using a large constant- directivity horn speaker.

c) It shall give a choice of four directivity angles, namely 15, 30, 45 and 60 degrees and shall be employed as needed.

d) The Compact Speaker System shall be similar or equal to the TOA HX-5 and shall meet or exceed the required technical specifications.

**The following specifications apply:**

Description	Specification
Power Handling Capacity	Continuous pink noise: 200W, Continuous program: 600W
Rated Impedance	8Ω

Description	Specification
Sensitivity (1W, 1m)	96dB (60° mode), 97dB (45° mode), 98dB (30° mode), 99dB (15° mode)
Crossover Frequency	4KHz
Directivity Angle Horizontal	100° (over 2kHz)

### 5.3.9.5 Sub-Woofer Speaker System

- a) The Sub-woofer shall be used in conjunction with the compact speaker system (Item 5.3.9.4) and shall handle the lower frequencies 40Hz – 1.2kHz (-10dB).
- b) The Sub-woofer shall be similar or equal to the TOA FB-120 and shall meet or exceed the required technical specifications.
- c) The rigging frame for indoor use of the compact speaker system shall be similar or equal to the TOA HY-PF1 and shall be available in black and white.
- d) The brackets required to mount the compact speaker system shall be similar or equal to the TOA HY-CN1 and shall be available in black and white.
- e) The brackets required to mount the sub-woofer shall be similar or equal to the TOA BRCK-SPFB120 and shall be available in black and white.

**The following specifications apply:**

Description	Specification
Power Handling Capacity	Continuous pink noise: 200W, Continuous program: 600W
Impedance	8Ω
Sensitivity	90dB (1W, 1m) at installation in free sound field 96dB (1W, 1m) at installation in 1/2 free sound field
Frequency Response	40Hz – 1.2kHz (-10dB)
Speaker Component	30cm cone-type

### 5.3.9.6 Line Array Speaker System

- a) The 2-way line array speakers shall each contain 32 speaker elements namely 8 x 10cm woofers and 24 high frequency drivers.
- b) The driver units shall be installed vertically and with minimal space between units in order to create a continuous linear sound source to enable the delivery of a uniform sound pressure that resists attenuation with distance.
- c) The array shall have a gently curved line designed for a 10° vertical coverage area to provide ideal sound coverage over a shorter distance.
- d) The line array speakers shall be similar or equal to the TOA SR-S4S and shall meet or exceed the required technical specifications.
- e) The slim line array speakers shall each contain 9 x 7cm cone speakers.
- f) The slim line array speakers shall be similar or equal to the TOA SR-H2S and shall meet or exceed the required technical specifications.

**The following specifications apply for the 2-way line array speakers:**

Description	Specification
Enclosure	Bass-reflex type
Power Handling Capacity	Continuous program 600W
Rated Impedance	8Ω
Sensitivity (1W, 1m equivalent measured at 4m)	93dB

Description	Specification
Frequency Response	70Hz – 20kHz (when using optional Digital processor)
Cross over	3.5kHz
Directivity Angle	Horizontal 90° Vertical 10
Speaker Component (High frequency)	10cm cone-type × 8
Speaker Component (Low frequency)	2.5cm balanced dome-type × 24

**The following specifications apply for the slim line array speaker:**

Description	Specification
Power Handling Capacity	Continuous program 180W
Rated Impedance	8Ω
Sensitivity (1W, 1m equivalent measured at 4m)	90dB
Frequency Response	90Hz – 17kHz (when using optional Digital processor)
Directivity Angle	Horizontal 90° Vertical 20
Speaker Component	7cm cone-type x 9

**5.3.9.7 JBL Line Array Speaker System (JBL or equivalent speaker system required)**

- a) The Line Array speaker system shall be a lightweight, compact 8" two-way line array speaker system designed for use in arrays of up to six units when line-array performance is needed but the venue size doesn't call for the very long-throw characteristics of larger line-arrays.
- b) The array shall have a constant curvature waveguide and mount two compression drivers on a continuous arc. When additional speakers are added to the array, the uninterrupted arc shall continue so that all the drivers work together as if they were a single driver on a very long waveguide.
- c) Each shall have one LF driver and two HF drivers so that the combined power handling and acoustic output of the system is far greater than a single driver can achieve.
- d) The speakers shall employ amplitude shading to shape the coverage of the array. This shall be achieved with switches on the input plate to allow the upper box in an array to reach the distant rear of a room while the lower box is shaded back to reduce excessive level at the front of the listening area.
- e) The Line Array Speaker shall be similar or equal to the JBL VRX928LA and shall meet or exceed the required technical specifications.
- f) The array frame shall accommodate the Line Array speakers and Sub-woofer and shall be similar or equal to the JBL VRX-SMAF.

**The following specifications apply:**

Description	Specification
Frequency Range (-10 dB)	70Hz -20kHz
Frequency Response (±3 dB)	87Hz - 19kHz
Coverage Pattern	100° x 15° nominal (horizontal x vertical), single unit
Crossover Modes	Bi-amp / passive, externally switchable
Crossover Frequency	2.0kHz

Description	Specification
Power Rating (Continuous / Program / Peak)	400W / 800W / 1600W Bi-amp LF: 400W / 800W / 1600W Bi-amp HF: 130W / 60W / 120W
System Maximum SPL2	122dB SPL peak (passive mode) LF: 122dB (bi-amp mode) HF: 128dB (bi-amp mode)
System Sensitivity (1w @ 1m)	90dB SPL (passive mode)
LF Driver	1 x 120cm Differential Drive woofer
HF Driver	2 x 25mm neodymium compression driver
Nominal Impedance	Passive 8Ω Bi-amp LF 8Ω Bi-amp HF 16Ω

### 5.3.9.8 Bass Reflex Subwoofer Speaker (JBL or equivalent equipment required)

- a) The Base Reflex Subwoofer Speaker shall be a light weight compact, high power suspendable subwoofer system and shall contain a neodymium magnet differential drive, 15-inch woofer in a front-loaded, vented enclosure.
- b) The unit shall be designed specifically for use in arrays with the JBL VRX928LA Line Array speakers.
- c) The subwoofer shall be similar or equal to the JBL VRX915S and shall meet or exceed the required technical specifications.

**The following specifications apply:**

Description	Specification
System Type	15" bass reflex subwoofer
Frequency Range (-10 dB)	35Hz - 250Hz
Frequency Response (±3 dB)	40Hz - 250Hz
Power Rating (Continuous / Program / Peak)	800 W / 1600 W / 3200 W
Maximum Peak	126dB SPL
Sensitivity (1w @ 1m)	91dB SPL
LF Driver	1 x 138cm Differential Drive woofer
Nominal Impedance	4Ω

### 5.3.9.9 Stage Monitor

- a) The Stage Monitor shall have one LF 380mm differential drive woofer and one HF 102mm voice-coil compression driver coupled to an aluminium horn.
- b) The unit shall be capable of handling 600W continuous power.
- c) The Stage monitor shall be similar or equal to the JBL VRX915M and shall meet or exceed the required technical specifications.

**The following specifications apply:**

Description	Specification
Frequency Range (-10 dB)	60Hz - 20kHz
Frequency Response (±3 dB)	70Hz - 20kHz
Coverage Pattern	50° x 90° nominal
Crossover Modes	Passive / Bi-amp
Crossover Frequency	1.1 kHz
Power Rating (Continuous / Program / Peak)	Passive Full-Range 800W / 1600W / 3200W, 2hrs

Description	Specification
	600W / 1200W / 2400W, 100hrs Bi-amp LF: 800W / 1600W / 3200W, 2hrs 600W / 1200W / 2400W, 100hrs Bi-amp HF: 75W / 150W / 300W, 2hrs
Maximum SPL	127 dB SPL continuous (133 dB SPL peak)2
System Sensitivity (1w @ 1m)	98 dB SPL
LF Driver	1 x 380mm Differential Drive woofer 8Ω
HF Driver	1 x 100mm diameter voice coil, 38mm exit, neodymium magnet compression driver 8Ω
Nominal Impedance	8Ω

### 5.3.9.10 Bose Panaray Speaker System (Bose or equivalent)

- a) The loudspeaker shall be a multiple driver, full-range system with matched active equalization.
- b) The transducer complement shall consist of eight (8) full-range environmental drivers of 11.4 cm diameter, mounted symmetrically in vertical pairs on a faceted, removable baffle assembly.
- c) Each driver shall have a rated impedance of 1Ω and shall be wired in series, resulting in a composite nominal impedance of 8Ω.
- d) The loudspeaker system sensitivity shall be 99dB-SPL in the 300Hz to 3kHz range and 91dB SPL in the 55Hz to 16kHz range with both measurements referenced to a 1 watt (2.83V) pink noise input at 1 meter.
- e) The nominal horizontal beam width shall be 120 degrees, and the nominal vertical beam width shall be 100 degrees.
- f) The power handling capacity of the loudspeaker shall be 240 Watt continuous pink noise, band-limited from 55Hz to 16kHz.
- g) The loudspeaker shall be provided with a ducted vent system, tuned at 55Hz.
- h) The input connectors of the loudspeaker shall consist of two parallel Speakon® NL4 receptacles.
- i) The speakers shall be similar or equal to the Bose Panaray 802 Series III loudspeaker and shall meet or exceed the required technical specifications.
- j) The Modular Base loudspeaker shall be a multiple driver, low-frequency system with matched active equalization.
- k) The transducer complement shall consist of four low-frequency drivers of 13.3 cm diameter, mounted symmetrically in vertical pairs. Each driver shall have rated impedance of 8Ω and shall be wired in series/parallel, resulting in composite nominal impedance of 8Ω.
- l) The loudspeaker system sensitivity shall be 87dB-SPL in the 40Hz to 300Hz frequency range with measurements referenced to 1W (2.85V) pink noise input at 1m.
- m) The dispersion shall be omnidirectional at all frequencies below 200Hz.
- n) The power handling capacity of the loudspeaker shall be 200W continuous pink noise, bandlimited from 40Hz to 300Hz.
- o) The loudspeaker shall be a vented enclosure, tuned at 45Hz.
- p) The input connectors of the speaker shall consist of two parallel Speakon NL4 receptacles.

- q) The modular base speakers shall be similar or equal to the Bose Panaray MB4 Modular Bass Loudspeaker and shall meet or exceed the required technical specifications.
- r) The System Digital Controller shall use a digital signal processing architecture running at a 44.1kHz sample rate.
- s) The frequency response shall be from 20Hz to 20kHz (+0/-1dB). The dynamic range shall be 103dB (typical) 20Hz to 20kHz.
- t) The controller shall include a single analogue, balanced, differential XLR input connector for each of the two input channels.
- u) It shall have a single analogue, balanced, differential XLR output for each of its four outputs. The maximum input level shall be +18dBu. The maximum output level shall be +18dBu.
- v) The input impedance shall be 2.21kΩ for balanced operation. The output impedance shall be 200Ω.
- w) The throughput delay time through the controller shall be 1.52ms.
- x) Crosstalk shall be < -100dB.
- y) The THD shall be < 0.003% (typical).
- z) A 9-pin RS232 connector COM port shall be used for software updates.
- aa) The controller shall be similar or equal to the Bose Panaray system digital controller II and shall meet or exceed the required technical specifications.
- bb) Tenderers shall quote separately in their covering letter for speaker stands similar or equal to the Bose SS-10 Stands.

**The following specifications apply for the Bose Panaray 802 Loudspeaker:**

Bose Panaray 802 Series III Loudspeaker	Tenderer to state make and model number
Frequency Range	55Hz to 16kHz ±3dB
Sensitivity	91dB-SPL @ 1W, 1m (pink noise)
Maximum Acoustic Output	114dB-SPL @ 1m (pink noise), 116dB-SPL @ 1m (IEC3 noise)
Dispersion (−6dB point, average, 1-4kHz)	Horizontal 120°, Vertical 100°
Long-Term Power Handling	240W continuous
Impedance	8 Ω nominal

**The following specifications apply for the Bose digital controller:**

Description	Specification
Frequency Response	20Hz - 20kHz (+0/-1dB)
THD	0.003% (typical)
Channel Separation (Crosstalk)	100dB (typical)
Dynamic Range	103dB (typical)
Audio Latency	1.52ms
A/D and D/A Converters	24-bit
Sample Rate	44.1kHz
Audio Inputs	2 analogue, balanced, differential
Connectors, Input	XLR
Input Impedance	Differential 2.21 kΩ 1 kHz
Maximum Input Level	+18dBu
Sensitivity Selectable	0/+6/+12/+18dBu

Description	Specification
Outputs	4 analogue, balanced, differential
Connectors, Output	XLR
Output Impedance	Differential 200Ω
Maximum Output Level	+18dBu (balanced)
Output Ranges Selectable	0/+6/+12/+18dBu (balanced)

**The following specifications apply for the Bose Panaray Modular Bass Loudspeaker:**

Description	Specification
Frequency Range	40Hz to 300Hz ±3dB
Sensitivity	87dB-SPL @ 1W, 1m (pink noise)
Maximum Acoustic Output	110dB-SPL, @ 1m (pink noise)
Dispersion	Omnidirectional at all frequencies below 200Hz
Long-Term Power Handling	200W continuous
Impedance	8Ω nominal

### 5.3.9.11

#### Cabinet Speaker

- The Cabinet speaker shall have a rated input of 6W when used on a 100V line.
- The speaker shall be similar or equal to the TOA BS-678 and shall meet or exceed technical specifications as specified below.

**The following specifications apply:**

Description	Specification
Rated Input	6W (100V line)
Rated Impedance	1.7kΩ (6W)
Sensitivity (1W, 1m)	94dB (500Hz – 5kHz, pink noise)
Frequency Response	150Hz – 20kHz (peak –20dB)
Speaker Component	16cm double cone-type
Connection	Push-in connector (bridging terminal)

### 5.3.9.12

#### Bose RoomMatch Array Module (Bose or equivalent required)

- The Bose RoomMatch Array Module loudspeaker shall contain six (6) 2-inch titaniumdiaphragm compression drivers mounted to a continuous-arc diffraction-slot manifold.
- The manifold shall provide acoustic summation that is free from significant peaks or dips in response, from 500Hz to 16kHz, and exit into a constant-directivity waveguide with effective pattern control to approximately 1kHz.
- The low-frequency section shall contain two (2) 10-inch cone transducers with 3-inch voice coils, with each woofer contained in a separate vented enclosure.
- The array module will require external, active digital signal processing for transducer crossover and frequency response equalization.
- The array module loudspeaker shall meet the following performance specifications:
- On-axis system frequency response shall be 60Hz to 16kHz (+/- 3dB) with recommended crossover and active equalization.
- The low-frequency sensitivity shall be 93dB SPL in free field with 1W input and be capable of producing peak output of 126dB SPL on axis at 1 meter, with recommended equalization.

- h) The high-frequency sensitivity shall be 103dB SPL in free field with 1W input and be capable of producing peak output of 131dB SPL on axis at 1 meter, with recommended equalization.
- i) The low-frequency section shall have a long-term power handling rating of 500W and a nominal input impedance of 4Ω.
- j) The high-frequency section shall have a long-term power handling rating of 150W and a nominal input impedance of 8Ω.
- k) Power handling will be rated using IEC 268-5 pink noise, 6dB crest factor, for 100 hours, with recommended equalization.
- l) The nominal coverage pattern shall be 70° horizontal and 20° vertical.
- m) The array module loudspeaker shall be constructed of 11-ply Baltic birch plywood, protected by a polyurethane coating, for top and bottom waveguide sections, engineered-plastic composites for the woofer enclosures, and steel spar beams connecting the integral side-plate steel rigging hardware.
- n) The rigging hardware shall support up to 8 similar array module loudspeakers with a 10:1 Safety Factor.
- o) The woofer and waveguide sections shall be protected by separate 19-gauge (1.0 mm) perforated steel grilles with powder-coated finish.
- p) Input connectors shall be two (2) parallel-wired Neutrik NL4 Speakon connectors.
- q) The array module loudspeaker shall be similar or equal to the Bose RoomMatch RM7020 and shall meet or exceed the required technical specifications.
- r) Tenderers shall provide a full list of unit prices in their covering for array module loudspeakers in the Bose RoomMatch range, namely RM5520, RM9010, RM9060, RM12060 and RMS215.

**The following specifications apply for the Bose RoomMatch array module:**

Specification	Description
Frequency Response	(+/-3 dB) 60Hz - 16kHz
Frequency Range	(-10 dB) 55Hz - 16kHz
Recommended High-Pass Filter	50Hz with minimum 24dB / octave ( 4 <sup>th</sup> order ) slope.
Nominal Dispersion	70° H x 20° V
Recommended Crossover Frequency	550Hz (acoustic, active, external DSP)
Long Term Power Handling	Low Frequency: 500W (2000W peak) High Frequency: 150W (600W peak)
Nominal Impedance	LF: 4Ω HF: 8Ω
Sensitivity (SPL / 1 W @ 1 m)	LF No EQ: 94dB SPL LF with EQ: 93dB SPL HF No EQ: 110dB SPL HF With EQ 103dB SPL
Maximum SPL @ 1 m	LF No EQ: 121dB SPL (127 dB SPL peak) LF with EQ: 120dB SPL (126dB SPL peak) HF No EQ: 132dB SPL (138dB SPL peak) HF With EQ: 125dB SPL (131dB SPL peak)
Driver Compliment	HF: 6 x Bose EMB2 extended mid-band high frequency compression drivers (2-inch voice coil) LF: 2 x Bose LF10 ultra-linear 10-inch woofers (3inch voice coil)
Connectors	Two (2) parallel-wired NL4 Neutrik Speakon connectors

**5.3.9.13****Long Range Horn Array Speaker**

- a) The horn array speaker shall have rated input (100V Line) 50.
- b) The speaker shall have SPL: (1W, 1m) of 114dB.
- c) The frequency response shall be 350 Hz – 7 kHz.
- d) The directivity angle for horizontal and vertical shall be 90 degrees (2 kHz) and 15 degrees (2 kHz).
- e) Have waterproof rating of IPX5.

**The following specifications apply:**

Specification	Description
Rated Input (100V line)	50 W
SPL (1 W, 1m)	114 dB
Maximum SPL (50 W, 1m)	131 dB
Frequency Response	350 Hz – 7 kHz
Directivity angle	Horizontal: 90° (2 kHz), Vertical: 15° (2 kHz)
Water protection	IPX5

**5.3.10****Recording Devices****5.3.10.1****Portable Digital Recorder**

- a) The portable digital recorder shall be similar or equal to the TASCAM DR-05.

**The following specifications shall apply:**

Description	Specification
Sampling frequency	44.1kHz/48kHz/96kHz
Bit-rate for recording	32/64/96/128/192/256/320kbps
Frequency response	20Hz to 20kHz +1dB/-3dB
Distortion	0.05% or lower (Fs 44.1k/48k/96kHz, EXT IN to LINE OUT, JEITA)
S/N ratio	92dB or higher (Fs 44.1k/48k/96kHz, EXT IN to LINE OUT, JEITA)
File system	FAT16/32
File format	WAV(BWF), MP3
Recording media	micro SD card (64MB to 2GB), micro SDHC card (4GB to 32GB)

**5.3.10.2****Professional CD Recorder/ Player**

- a) Shall be similar or equal to the CD-RW901MKII

**The following specifications shall apply:**

Description	Specification
Playback file formats	44.1 kHz, 16 bit, stereo, 44.1 kHz, 64 to 320 kbps, VBR
Recording file format	44.1 kHz, 16 bit, stereo
Frequency response	Playback: 20Hz to 20kHz, +/-0.8dB; 20Hz to 20kHz, +/-1.0dB
Distortion	Playback 0.006%; recording 0.008 %
S/N ratio	Playback: 95db; recording 90dB
Channel separation	Playback: 90 dB (1kHz); recording 80 dB (1kHz)
Dynamic range	Playback: 95 dB; recording: 90 dB

### 5.3.11 Playback Devices

#### 5.3.11.1 CD/MP3 Player

- a) Shall be able to play audio CD's, MP3 CD's and WAV file CD's.
- b) Shall have CD text and ID support.
- c) Shall have RCA line outputs.
- d) Have 1/4" stereo headphone output.
- e) Shall be similar or equal to the TASCAM CD-200

**The following specifications apply:**

Description	Specification
Sampling frequency	Include 44.1kHz/48kHz, 8/16-bit (data CD)
Frequency response	20Hz to 20kHz
Distortion	0.01% or less
S/N ratio	90 dB or more
Channel separation	90 dB or more ( 1 kHz )

### 5.3.12 UHF Band Wireless System

#### 5.3.12.1 Wireless Tuner

- a) The wireless tuner shall be a PLL-synthesizer controlled double super heterodyne true diversity tuner in a UHF wireless system.
- b) It shall employ a compounder noise reduction circuit to minimize the influence of the ambient RF noise.
- c) The unit shall be similar or equal to the TOA WT-5800D01ER and shall meet or exceed the provided specifications.

**The following specifications apply:**

Description	Specification
Receiving Frequency	Shall be ICASA approved.
Channel Selectable	64 selectable frequencies
Receiving System	Double super-heterodyne
Diversity System	Space diversity (true diversity)
Mixing Output	Mic/Line (selectable) Mic: -60dB Line: -20dB, 600Ω Phone jack (unbalanced), 600Ω XLR-3-32 type connector (balanced)
Mixing Input	-20dB, 10 kΩ, unbalanced, phone jack
Antenna Input	75Ω, BNC (phantom powering for antenna), 9VDC, 30mA (max)
Antenna Output	75Ω, BNC (Gain 0dB)
Receiving Sensitivity	90dB or more, Signal to Noise ratio (20dBμV input, 40kHz deviation)
Channel Check	Usable frequencies scanning
Signal to Noise Ratio	110dB or more (A-weight, unbalanced output)
Harmonic Distortion	1% or less (typical)
Frequency Response	100Hz - 15kHz, ±3dB

**5.3.12.2 UHF Wireless Antenna**

- a) The UHF Wireless Antenna shall be an active antenna covering the UHF bands for wireless microphones. The gain shall be more than 8dB.
- b) The antenna shall be similar or equal to the YW-4500.

**The following specifications apply:**

Description	Specification
Power	7 – 12 V DC
Current Consumption	15 mA or less
Receiving Frequency	550 – 932 MHz, UHF
Gain	8 dB or more
Output Impedance	75 Ω

**5.3.13 Headsets****5.3.13.1 Stereo Headphones**

- a) The Stereo Headphones shall be suitable for monitoring a sound system shall be similar or equal to the Sennheiser HD 200 audio headphones and shall meet or exceed technical specifications as specified below.

**The following specifications apply:**

Description	Specification
Frequency Response	12 – 22 000 Hz ( -10 dB / 1 kHz )
Impedance	64 Ω
Sound Pressure Level (SPL)	106 dB ( at 1 kHz, 1 V rms )
Total Harmonic Distortion (THD)	< 0.3 % at 1 kHz
Ear coupling	Circumaural

**5.3.14 Portable Sound Systems****5.3.14.1 Compact Portable Sound System**

- a) The Compact Portable Sound System shall be a multiple driver, full-range portable loudspeaker system with internally supplied power amplification and active equalization for multiple operating modes.
- b) The transducer complement shall consist of six 51 mm high-excursion drivers mounted in a curved articulated array, loudspeaker coupled with an integral 203 mm low-frequency driver mounted in a ported bass enclosure.
- c) The loudspeaker array shall be wired in a series/parallel configuration.
- d) The nominal horizontal beam width of the loudspeaker shall be 180°, and the vertical coverage shall be 40°.
- e) The system's power stand shall incorporate a ported venting system for the low-frequency driver, tuned for 65Hz.
- f) The power amplification for transducers shall be supplied by the integrated power stand providing 130 W continuous pink noise, band-limited from 65Hz to 14kHz (±3 dB).
- g) The input connectors of the power stand module shall consist of one XLR with equalization for a dynamic handheld microphone, one 1/4" TRS with selectable ToneMatch signal processing for acoustic guitar with piezo pickup, stereo RCA, and one 1/8" TRS receptacle.

- h) The output connectors of the power stand shall consist of one 1/4" balanced TRS or unbalanced TS and two RCA unbalanced phone plugs.
- i) The loudspeaker shall be similar or equal to the Bose L1 Compact portable line array system and shall meet or exceed the provided technical specifications.

**The following specifications apply:**

Description	Specification
System Power Source	Self-powered, two-way
Frequency Response (+/-3dB)	65Hz - 14kHz
Frequency Range (-10dB)	50Hz - 16kHz
Nominal Dispersion	180° H x 40° V
Maximum SPL @ 1m2	106dB SPL (112dB SPL peak)
Crossover Frequency	400Hz 4th order Butterworth
System Power Rating	130W
Distortion at Rated Power	0.1% Max (30Hz - 15kHz)
System Limiter	Dynamic limiter
Overload Protection	Fuse/NTC
Driver Compliment	Array: Six (6) 51mm HF drivers; Power Stand: 203mm LF driver
Signal Indicators	Signal/clip LED Green = signal present, Red = clip (limiter active)
Input	XLR Balanced
Channel Gain (XLR input)	-Infinity to + 50dB
Maximum Input Signal	+8dBu
Input Impedance	2.4kΩ
Controls	Volume, Treble (+/- 5dB shelving filter @ 4kHz), Bass (+/- 5dB shelving filter @ 120Hz)
Record Out	RCA unbalanced

### 5.3.14.2

#### **Compact Sound System with Tone Match audio engine**

- a) The system shall be a multiple driver, full-range portable loudspeaker system with internally supplied power amplification, active equalization and external bass modules.
- b) The transducer complement shall consist of twenty-four 57mm high-excursion, high-frequency drivers mounted in an articulated array loudspeaker design, coupled with two 133mm highexcursion, low-frequency drivers mounted in a vented bass enclosure.
- c) The loudspeaker array shall be wired in a series/parallel configuration.
- d) The nominal horizontal beam width of the loudspeaker shall be 195°, and the vertical coverage shall be a narrow band of sound confined to the top and bottom of the array.
- e) The power amplification for transducers shall be supplied by the integrated power stand providing 500 W continuous pink noise, band-limited from 40Hz to 12kHz ( $\pm 3$  dB).
- f) The input connectors of the power stand module shall consist of one 1/4" TS unbalanced or TRS balanced receptacle and one digital Ethercon (RJ-45) receptacle for coupling the T1 ToneMatch audio engine.
- g) The system's output connectors shall provide one NL4 receptacle capable of distributing power for two low-frequency B1 bass modules and one 1/4" TRS line-level receptacle for supplying signal to a PackLite extended bass package.

h) The loudspeaker system shall be similar or equal to the Bose L1 Model II double base package with ToneMatch audio engine and shall meet or exceed t

i) he specified technical specifications.

**The following specifications apply:**

Description	Specification
System Type	Self-powered, two-way
Frequency Response (+/-3dB)	40Hz - 12kHz
Frequency Range (-10dB)	32Hz - 14kHz
Nominal Dispersion	195° H x 0° V
Maximum SPL @ 1 m2	115dB SPL (121dB SPL peak)
Crossover Frequency	200Hz (24dB / octave)
System Power Rating	500W
Low-Frequency Amplifier	250W
High Frequency Amplifier	250W
Distortion at Rated Power	0.1% Max (30Hz - 15kHz)
System Limiter	Dynamic limiter
Overload Protection	Fuse/MOV/NTC/PTC
Driver Compliment	Cylindrical Radiator loudspeakers: Twentyfour (24) 57mm HF drivers B1 bass module: Two (2) 133mm LF drivers (8 Ω)
Signal Indicators	Analog signal/clip LED Green signal present, Yellow -3dB below clip, Red clip (limiter active)
Trim	+14dB @ max
Input	1/4" - TS unbalanced or TRS balanced
Channel Gain (1/4" input)	-50dB to +28dB (line)
Maximum Input Signal	+24dBu (balanced)
Input Impedance	10kΩ +/- 10% (unbalanced)
Bass Module out	NL4 connector (all pins wired, two for audio, two for auto sensing). Bass output signal for driving one or two B1 bass modules. (1 B1 bass module = 8 Ω) (2 B1 bass modules = 4 Ω)
Bass Line Output	Post-DSP bass signal output. Shall accepts a 1/4" TRS cable. Supplies low frequency signal for connecting a PackLite power amplifier or powered sub-woofer.
ToneMatch Port	CAT5 Ethernet cable with RJ45 connection providing digital audio and power connection for the optional T1 ToneMatch audio engine

### 5.3.15 IP Intercom Systems

#### 5.3.15.1 IP Multifunctional Master Station

a) The IP multifunctional master station shall employ packet audio technology. Connecting the master station to a IP network (LAN or WAN) shall permit hands-free or handset conversation of high sound quality to be made between the master station units and intercom stations connected to the IP Intercom Exchange.

b) The master station shall provide a LCD display with auto-dialling function enabling one-touch dialling, headset terminal and external speaker terminal.

c) Power can be supplied from the PoE (Power over Ethernet) switching hub. (In this case, an AC adapter is not required)

- d) The station can be mounted to the using a wall mounting bracket.
- e) The IP multifunctional master station shall be similar or equal to the N-8600MS.

**The following general specifications shall apply:**

Description	Specification
Power Source	Complies with IEEE802.3af standard or 12V DC (supplied from AC adapter)
Power Consumption	Use of the AC adapter (12V DC): 2.5W (station only), Use of the PoE (48V DC): 3W
Speech Method	Hands-free or handset conversation
Audio Frequency Range	300 Hz – 7 kHz
Hands-free	Speaker: 5.7cm cone-type, maximum output 0.5W, 8Ω
Microphone	Omni-directional electret condenser microphone
Handset	Receive path: Dynamic type, Send path: Electret condenser microphone
Headset Terminal	Speaker: 150Ω, ø3.5mm (0.14") mini jack
Microphone	-49dB*, ø3.5mm mini jack
External Speaker Terminal	Maximum output 0.5W, 8Ω, screwless connector (2P)
Display	LCD alphanumeric characters
Installation Method	Desk/Surface mounted master station
Operating Temperature	0°C to +40°C (32°F to 122°F)
Operating Humidity	90% RH or less (no condensation)

**The following network specifications shall apply:**

Description	Specification
Network I/F	10BASE-T/100BASE-TX (Automatic-Negotiation)
Network Protocol	TCP/IP, UDP, ARP, ICMP, HTTP, RTP, IGMP
Audio Packet Transmission System	Unicast, Multicast
Number of Paging Destinations	Unicast (max. 16), Multicast (max. 191)
Connector	LAN: RJ45 connector (compatible with PoE)
Voice Sampling Frequency	16kHz, 8kHz (controllable on the software)
Quantifying Bit Number	16-bit
Voice Encoding Method	Sub-band ADPCM, Cryptosystem
Voice Packet Loss Recovery	Silence insertion
Audio Delay Time	80ms, 320ms (controllable on the software)

### 5.3.15.2

#### IP Standard Master Station

- a) The IP Master station shall employ packet audio technology.
- b) The unit shall permit connecting to an IP network (LAN or WAN) and allow hands-free or handset conversation of high sound quality.
- c) The unit shall be equal or similar to the N-8510MS.

**The following general specifications shall apply:**

Description	Specification
Power Source	Complies with IEEE802.3af standard or 12V DC (supplied from AC adapter)

Power Consumption	4.2W (at rated), 6W (max.)
Speech Method	Hands-free or handset conversation
Audio Frequency Range	300 Hz – 7 kHz
Hands-free	Speaker: 0.6W, 8 $\Omega$ , 5.7cm (2.24") cone-type
Microphone	Omni-directional electret condenser microphone
Handset	Receive path: Dynamic type, Send path: Electret condenser microphone
External Contact Input Terminal	No-voltage contact input, open voltage: 5V DC short-circuit current: 5 mA or less, screwless connector (2 pins)
External Speaker Terminal	Maximum output 0.5W, 8 $\Omega$ , screwless connector (2P)
<b>Display</b>	LCD alphanumeric characters
Installation Method	Desk/Surface mounted master station
Operating Temperature	0°C to +40°C (32°F to 122°F)
Operating Humidity	90% RH or less (no condensation)

**The following Network specifications shall apply:**

Description	Specification
Network I/F	10BASE-T/100BASE-TX (Automatic-Negotiation)
Network Protocol	TCP/IP, UDP, ARP, ICMP, HTTP, RTP, IGMP
Audio Packet Transmission System	Unicast, Multicast
Connector	LAN: RJ45 connector (compatible with PoE)
Voice Sampling Frequency	16kHz, 8kHz (controllable on the software)
Quantifying Bit Number	16-bit
Voice Encoding Method	Sub-band ADPCM, Cryptosystem
Voice Packet Loss Recovery	Silence insertion
Audio Delay Time	80ms, 320ms (controllable on the software)

### 5.3.15.3

#### IP Door Station

- a) The IP door station shall employ packet audio technology and permit hands-free conversation of high sound quality between the intercom station or multifunctional master station.
- b) The unit shall be equipped with 1 channel of control input, 5 channels of control outputs (including 1 channel of relay control output), and speaker output.
- c) The unit shall allow the connection of external equipment such as a sensor, indicator, and external speaker.
- d) The IP door station shall be equal or similar to the N-8640DS.

**The following specifications shall apply:**

Description	Specification
Power Source	Complies with IEEE802.3af standard or 12V DC (supplied from AC adapter)
Power Consumption	Use of the AC adapter (12V DC): 3.5W (station only), Use of the PoE (48V DC): 5W
Speech Method	Hands-free or handset conversation
Audio Frequency Range	300 Hz – 7 kHz
Hands-free	3.5cm (1.38") cone-type, maximum output 0.5W, 8Ω
Microphone	Omni-directional electret condenser microphone
Contact Input	1 channel, no-voltage make contact input, open circuit voltage: 5V DC, short circuit current: 10mA or less, un-terminated ends
Contact Output	Open collector output, 4 channels, withstand voltage: 30V DC, control current; Max. 50mA (4 output 1COMMON), un-terminated ends. Relay contact output, 1 channel, withstand voltage; 30V DC. Control current: Max. 500mA, un-terminated ends
External Speaker Terminal	Maximum output 0.5W, 8Ω, un-terminated ends
Dust / Water Protection	IP65 (Panel edges must be sealed at installation)
Housing Protection	BS EN62262: 2002: IK02 equivalent
Installation Method	Flush-mount/Surface-mount
Operating Temperature	-10°C to +50°C
Operating Humidity	90% RH or less (no condensation)

**The following Network specifications shall apply:**

Description	Specification
Network I/F	10BASE-T/100BASE-TX (Automatic-Negotiation)
Network Protocol	TCP/IP, UDP, ARP, ICMP, HTTP, RTP, IGMP
Audio Packet Transmission System	Unicast, Multicast
Connector	LAN: RJ45 connector (compatible with PoE)
Voice Sampling Frequency	16kHz, 8kHz (controllable on the software)
Quantifying Bit Number	16-bit
Voice Encoding Method	Sub-band ADPCM, Cryptosystem
Voice Packet Loss Recovery	Silence insertion
Audio Delay Time	80ms, 320ms (controllable on the software)

**5.3.15.4 Indoor Station Board Unit**

- a) The kit shall contain the assembling parts for a custom-made IP door station.
- b) The door station kit shall be equal or similar to the N-8640SB.

**The following general specifications shall apply:**

Description	Specification
Power Source	Complies with IEEE802.3af standard or 12V DC (supplied from AC adapter)
Power Consumption	Use of the AC adapter (12V DC): 3.5W (station only), Use of the PoE (48V DC): 5W
Speech Method	Hands-free conversation
Audio Frequency Range	300 Hz – 7 kHz
Hands-free	0.5W, 8Ω, 3.5cm (2.24") cone-type
Microphone	Omni-directional electret condenser microphone
Contact Input	1 channel, no-voltage make contact input, open circuit voltage: 5V DC, short circuit current: 10mA or less, un-terminated ends
Contact Output	Open collector output, 4 channels, withstand voltage: 30V DC, control current; Max. 50mA (4 output 1COMMON), un-terminated ends. Relay contact output, 1 channel, withstand voltage; 30V DC. Control current: Max. 500mA, un-terminated ends
External Speaker Terminal	Maximum output 0.5W, 8Ω, un-terminated ends
Wiring Method	Non-polar one pair stranded wire system
Transmission System	2 wire 160kbps echo canceller transmission system
Installation Method	Flush-mount/Surface-mount
Operating Temperature	-10°C to +50°C
Operating Humidity	90% RH or less (no condensation)

**The following Network specifications shall apply:**

Description	Specification
Network I/F	10BASE-T/100BASE-TX (Automatic-Negotiation)
Network Protocol	TCP/IP, UDP, ARP, ICMP, HTTP, RTP, IGMP
Audio Packet Transmission System	Unicast, Multicast
Connector	LAN: RJ45 connector (compatible with PoE)
Voice Sampling Frequency	16kHz, 8kHz (controllable on the software)
Quantifying Bit Number	16-bit
Voice Encoding Method	Sub-band ADPCM, Cryptosystem
Voice Packet Loss Recovery	Silence insertion
Audio Delay Time	80ms, 320ms (controllable on the software)

**5.3.15.5 Multifunctional Master Station**

- a) The master station shall connect to the corresponding Network intercom Exchange.
- b) The unit shall provide hands-free or handset conversation of high sound quality.
- c) The unit shall provide a LCD display.
- d) The unit shall provide Auto-dialling.
- e) The unit shall provide a headset terminal and external speaker terminal.
- f) The master station shall be equal or similar to the TOA N-8000MS

**The following specifications shall apply:**

Description	Specification
Power Source	48V DC
Power Consumption	1.8W (at rated), 2.4W (max.)
Wiring Method	1 set of twisted pair cable
Transmission System	2 wire 160kbps echo canceller transmission system
Speech Method	Hands-free or handset conversation
Audio Frequency Range	300 – 7,000Hz
Transmission Range	Max. 1500m (ø0.65mm). Loop resistance 170Ω
Hands-free	Speaker: 0.6W, 8Ω, 5.7cm (2.24") cone-type
Microphone	Omni-directional electret condenser microphone
Handset	Receive path: Dynamic type, Send path: Electret condenser microphone
Display	Alphanumeric characters
Line Connecting Terminal	RJ-11 modular jack
Headset Terminal	Speaker: 3mW, 32Ω
Microphone	-49dB*, ø3.5mm (ø0.14") mini jack
External Speaker Terminal	0.6W, 8 Ω, screwless connector (2P)
Installation Method	Desk/Surface mounted master station
Operating Temperature	0°C to +40°C
Operating Humidity	90% RH or less (no condensation)

**5.3.15.6****Standard Master Station**

- a) The master station shall connect to the network intercom exchange and provide hands-free or handset conversation of high sound quality.
- b) The unit shall be equal or similar to the N-8010MS.

**The following specifications shall apply:**

Description	Specification
Power Source	48V DC
Power Consumption	1.8W (at rated), 2.4W (max.)
Wiring Method	1 set of twisted pair cable
Transmission System	2 wire 160kbps echo canceller transmission system
Speech Method	Hands-free or handset conversation
Audio Frequency Range	300 – 7,000Hz
Transmission Range	Max. 1500m (ø0.65mm). Loop resistance 170Ω
Hands-free	Speaker: 0.6W, 8Ω, 5.7cm cone-type
Microphone	Omni-directional electret condenser microphone
Handset	Receive path: Dynamic type, Send path: Electret condenser microphone
Line Connecting Terminal	RJ-11 modular jack
Installation Method	Desk/Surface mounted master station
Operating Temperature	0°C to +40°C
Operating Humidity	90% RH or less (no condensation)

**5.3.15.7 Industrial-Use Master Station**

- a) The master station shall connect to the Network intercom Exchange and provide hands-free or handset conversation of high sound quality.
- b) The unit shall be dustproof and waterproof.
- c) The unit shall allow the connection of an external speaker.
- d) The unit shall be similar or equal to the N-8020MS.

**The following specifications shall apply:**

Description	Specification
Power Source	48V DC
Power Consumption	1.8W (at rated), 2.4W (max.)
Wiring Method	1 set of twisted pair cable
Transmission System	2 wire 160kbps echo canceller transmission system
Speech Method	Hands-free or handset conversation
Audio Frequency Range	300 – 7,000Hz
Transmission Range	Max. 1500m (ø0.65mm). Loop resistance 170Ω
Hands-free	Speaker: 0.6W, 8Ω, 5.7cm cone-type
Microphone	Omni-directional electret condenser microphone
Handset	Receive path: Dynamic type, Send path: Electret condenser microphone
Dial-in Contact Output	Open collector output (The contacts have polarity.) Withstand voltage: Max. 30V DC, Control current: Max. 50mA, screwless connector (2P)
Line Connecting Terminal	RJ-11 modular jack
External Speaker Terminal	0.6W, 8 Ω, screwless connector (2P)
Installation Method	Desk/Surface mounted master station
Operating Temperature	-10°C to 50°C
Operating Humidity	90% RH or less (no condensation)
Dust/Water Protection	IP54

**5.3.15.8 Hands-Free Substation Board Unit**

- a) The printed circuit board unit shall be compatible with the door station.
- b) The unit shall be similar or equal to the N-8050SB.

**The following specifications shall apply:**

Description	Specification
Power Source	48V DC
Power Consumption	1.8W (at rated), 2.4W (max.)
Wiring Method	1 set of twisted pair cable
Transmission System	2 wire 160kbps echo canceller transmission system
Speech Method	Hands-free
Audio Frequency Range	300 – 7,000Hz
Transmission Range	Max. 1500m (ø0.65mm). Loop resistance 170Ω
Hands-free	Speaker: 1W, 8 Ω, 3.5cm cone-type
Microphone	Omni-directional electret condenser microphone

Description	Specification
Contact Output	Open collector output, withstand voltage: Max. 30V DC, control current: Max. 50mA, one shot: can be set from 1 to 9 sec, screw terminal (polarized)
Line Connecting Terminal	2 wire, screw terminal (non-polar) Pin header (2 pins)
Line Connecting Terminal	RJ-11 modular jack
Call Button Connecting	Solderless connector
Terminal	open voltage: 3.3V DC, short-circuit current: 1.5mA
Operating Temperature	-10°C to 50°C
Operating Humidity	90% RH or less (no condensation)

### 5.3.15.9

#### Door Station

- a) The door station shall provide high quality hands-free conversation.
- b) Shall have a contact output (momentarily closed) to remotely control an electric door lock.
- c) Shall be in full conformity with IP54 waterproof and dust-proof standards.
- d) Shall be provided with guard nets inside to cover over the openings of microphone and speaker.
- e) The door station shall be equal or similar to the N-8050DS.

**The following specifications shall apply:**

Description	Specification
Power Source	48V DC
Power Consumption	1.8W (at rated), 2.4W (max.)
Wiring Method	1 set of twisted pair cable
Transmission System	2 wire 160kbps echo canceller transmission system
Speech Method	Hands-free conversation
Audio Frequency Range	300 – 7,000Hz
Transmission Range	Max. 1500m (∅0.65mm). Loop resistance 170Ω
Hands-free	Speaker: 1W, 8 Ω, 3.5cm cone-type
Microphone	Omni-directional electret condenser microphone
Contact Output	Open collector output, withstand voltage: Max. 30V DC, control current: Max. 50mA, one shot: can be set from 1 to 9 sec, screw terminal (polarized)
Line Connecting Terminal	Open collector output (The contacts have polarity.) Withstand voltage: Max. 30V DC, Control current: Max. 50mA, screwless connector (2P)
Line Connecting Terminal	2 wire, screw terminal (non-polar)
External Speaker Terminal	0.6W, 8 Ω, screwless connector (2P)
Installation Method	Flush-mount/Surface-mount
Operating Temperature	-10°C to 50°C
Operating Humidity	90% RH or less (no condensation)
Dust/Water Protection	IP54
Housing Protection	BS EN62262: 2002: IK02 equivalent

**5.3.15.10****Flush-Mount Hands-Free Master Station**

- a) The flush- or surface-mount master station shall be compatible with the IP Intercom Exchange and features high quality hands-free conversation.
- b) Shall allow one-touch dialling operation.
- c) The master station shall be equal or similar to the N-8031MS.

**The following specifications shall apply:**

Description	Specification
Power Source	48V DC
Power Consumption	1.8W (at rated), 2.4W (max.)
Wiring Method	1 set of twisted pair cable
Transmission System	2 wire 160kbps echo canceller transmission system
Speech Method	Hands-free conversation with Handset conversation where required
Audio Frequency Range	300 – 7,000Hz
Transmission Range	Max. 1500m (ø0.65mm). Loop resistance 170Ω
Hands-free	Speaker: 0.6W, 8 Ω, 5.7cm cone-type
Microphone	Omni-directional electret condenser microphone
Line Connecting Terminal	Pin header (2 pins)
External Dial Input	No-voltage make contact input, open voltage: 5V DC, short-circuit current: 1mA, screwless connector (5 pins)
Installation Method	Flush-mount/Surface-mount
Operating Temperature	0°C to 40°C
Operating Humidity	90% RH or less (no condensation)

**5.3.15.11****Hands-Free Master Station Board Unit**

- a) The printed circuit board unit shall be compatible with the Flush-mount Hands-Free Master Station.
- b) The unit shall be equal or similar to the N-8031SB.

**The following specifications shall apply:**

Description	Specification
Power Source	48V DC
Power Consumption	1.8W (at rated), 2.4W (max.)
Wiring Method	1 set of twisted pair cable
Transmission System	2 wire 160kbps echo canceller transmission system
Speech Method	Hands-free conversation with Handset conversation where required
Audio Frequency Range	300 – 7,000Hz
Transmission Range	Max. 1500m (ø0.65mm). Loop resistance 170Ω
Hands-free	Speaker: 0.6W, 8 Ω, 5.7cm cone-type
Microphone	Omni-directional electret condenser microphone
Line Connecting Terminal	Pin header (2 pins)
External Dial Input	No-voltage make contact input, open voltage: 5V DC, short-circuit current: 1mA, screwless connector (5 pins)
Operating Temperature	0°C to 40°C

Description	Specification
Operating Humidity	90% RH or less (no condensation)

### 5.3.15.12 Master Station Handset

- a) The handset unit shall be for indoor use.
- b) The unit shall be equal or similar to the RS-191.

**The following specifications shall apply:**

Description	Specification
Handset Receiver	Dynamic type
Handset Transmitter	Electret condenser type
Operating Temperature	0°C to +40°C

### 5.3.15.13 IP Network Intercom Exchange

- a) The IP Network Intercom Exchange shall use packet audio technology to permit connection of up to sixteen master stations.
- b) Simultaneous hands-free conversation shall be possible between stations.
- c) The exchange shall be equipped with a networking interface, allowing up to 192 exchanges to be connected over a network using additional network intercom exchanges.
- d) The Exchange shall be mountable in an EIA standard rack (1-unit size) or to a wall using the supplied bracket.
- e) The unit shall be equal or similar to the N-8010EX.

**The following specifications shall apply:**

Description	Specification
Power Source	230V AC, 50/60Hz
Power Consumption	50W (at rated), 75W (max.)
Speech Path	Space sharing / Time Space sharing
Power Supply to Station	48V DC, Max. 70mA
Paging Output	Station paging only
Speech Link	Internal: 1/External: 2 (Both Half duplex/Full duplex use)
Hands-free Speech Method	Simultaneous conversation by way of echo canceller or Half-duplex conversation by way of voice switch
Line Capacity	Up to 16 stations
Wiring Method	1 set of twisted pair cables
Transmission System	2 wire 160kbps echo canceller transmission system
Transmission Range	Max. 1500m (Ø0.65mm. Loop resistance 170Ω)
Connecting Terminal	Dedicated connector
Installation Method	Rack, Desk, Surface mount
Operating Temperature	0°C to +40°C
Operating Humidity	90% RH or less (no condensation)

**The following Network Specifications shall apply:**

Description	Specification
Network I/F	10BASE-T/100BASE-TX (Automatic-Negotiation)
Network Protocol	TCP/IP, UDP, ARP, ICMP, HTTP, RTP, IGMP
Audio Packet Transmission System	Unicast, Multicast
Connector	LAN: RJ45 connector (compatible with PoE)
Voice Sampling Frequency	16kHz, 8kHz (controllable on the software)
Quantifying Bit Number	16-bit
Voice Encoding Method	Sub-band ADPCM, Cryptosystem
Voice Packet Loss Recovery	Silence insertion
Audio Delay Time	80ms, 320ms (controllable on the software)

**5.3.15.14 Multi Interface Unit**

- a) The N-unit shall allow the connection of up to 2 audio (BGM) input sources, up to 2 audio output lines, up to 2 inter-system tie-lines for expansion of existing systems, or up to 2 PBX interface connections.
- b) The unit shall allow connection of up to 16 relay contact outputs, and up to 16 no-voltage make contact inputs.
- c) The unit can be mounted in an EIA standard rack (1-unit size) or to a wall using the supplied bracket
- d) The multi interface unit shall be equal or similar to the N-8000MI

**The following specifications shall apply:**

Description	Specification
Power Source	230V AC, 50/60Hz
Power Consumption	50W (at rated), 75W (max.)
Audio Input	Input: 2 inputs (2P/input), Max. 0dB*1, under 600Ω, balanced, with a semi-fixed volume for adjustment (0 to -25dB) Control: 2 inputs (2P/input), no-voltage make contact input, open voltage: 12V DC, short-circuit current: 10mA Removable terminal block (8 pins)
Audio Output	Output: 2 outputs (2P/output), Max. 0dB*1, under 600Ω, balanced Control: 2 outputs (2P/output), relay contact output, contact capacity: 24V DC/0.5A Removable terminal block (8 pins)
Contact Input	16 inputs, no-voltage make contact input, open voltage; 12V DC, short-circuit current: 10mA, removable terminal block (9 pins)
Contact Output	16 outputs, relay contact output, contact capacity: 24V DC/0.5A, removable terminal block (9 pins)
PBX I/F	PBX input and output: 2 channels
Tie-line I/F	Tie-line input and output: 2 channels, DTMF signal
Installation Method	Rack, Desk, Surface mount
Operating Temperature	0°C to +40°C
Operating Humidity	90% RH or less (no condensation)

**The following Network Specifications shall apply:**

Description	Specification
Network I/F	10BASE-T/100BASE-TX (Automatic-Negotiation)
Network Protocol	TCP/IP, UDP, ARP, ICMP, HTTP, RTP, IGMP
Audio Packet Transmission System	Unicast, Multicast
Voice Encoding Method	Sub-band ADPCM, Cryptosystem
Voice Packet Loss Recovery	Silence insertion
Audio Delay Time	80ms, 320ms (controllable on the software)

**5.3.15.15****Audio Interface Unit**

- a) The audio interface unit shall be designed for use with an IP network compatible intercom system that employs the packet audio technology.
- b) It has an analogue audio input and output, a time synchronization contact input, and each 8 contact inputs and outputs.
- c) Connecting the unit to the LAN permits recording of conversations, chime broadcast at regular intervals (time signal) and paging broadcast to be implemented.
- d) It can be mounted in an EIA equipment rack (1U size) with the use of an optional rack mounting bracket or installed on a wall using an optional wall mounting bracket.
- e) The recording and interface unit shall be equal or similar to the N-8000AF.

**The following specifications shall apply:**

Description	Specification
Power Source	230 - 240V AC, 50/60Hz
Power Consumption	7W (Max.)
Audio Input	1 input (transformer isolated), -58dB* to 0dB*, 2k $\Omega$ , balanced (MIC/LINE input, controllable on the software) with input volume control knob, removable terminal block (3 pins)
Audio Output	1 output (transformer isolated), 0dB*, 600 $\Omega$ , balanced, removable terminal block (3 pins)
Contact Input	8 inputs, no-voltage make contact input, open voltage: 24V DC, short-circuit current: 5mA or less, removable terminal block (10 pins), (1 common terminal for 4 inputs)
Contact Output	8 outputs, relay contact output, output capacity: 24V DC/2 – 500mA, removable terminal block (16 pins) Time Sync Input: 1 input, no-voltage make contact input, open voltage: 24V DC, shortcircuit current: 5mA or less, removable terminal block (2 pins)
<u>Indication</u>	Network LNK/ACT indication, Status Lamp, Power-on indication lamp, Signal lamp, Peak lamp
<u>Other</u>	Firmware update function, System data hold function, Time of day hold facility, Reset switch (front panel)
Installation Method	Rack, Desk, Surface mount
Operating Temperature	0°C to +40°C
Operating Humidity	90% RH or less (no condensation)

**The following Network specifications shall apply:**

Description	Specification
Network I/F	10BASE-T/100BASE-TX (Automatic-Negotiation)
Network Protocol	TCP/IP, UDP, ARP, ICMP, HTTP, RTP, IGMP
Audio Packet Transmission System	Unicast, Multicast
Connector	RJ 45
Voice Sampling Frequency	16 kHz, 8 kHz (Controllable on the software)
Quantifying Bit Number	16 - bit
Voice Encoding Method	Sub-band ADPCM, Cryptosystem
Voice Packet Loss Recovery	Silence insertion
Audio Delay Time	80ms, 320ms (controllable on the software)

**5.3.15.16 Direct Select Unit**

- a) The direct unit shall be equipped with 32 contact inputs and outputs, and the indicators on the front panel shall indicate the output statuses.
- b) When connecting the unit to the LAN it should permit the calling station display, external equipment control, and direct selection function to be implemented.
- c) The unit shall be mounted in an EIA equipment rack (1U size) with the use of an accessory rack mounting bracket or installed on a wall using an optional wall mounting bracket.
- d) The direct select unit shall be equal or similar to the N-8000DI.

**The following specifications shall apply:**

Description	Specification
Power Source	220 – 240V AC, 50/60Hz
Power Consumption	16W (Max.)
Contact Input	32 inputs, no-voltage make contact input, open voltage: 24V DC, short-circuit current: 5mA or less, removable terminal block (20 pins), (1 common terminal for 4 inputs)
Contact Output	32 outputs, relay contact output, contact capacity: 24V DC/2 – 500mA, removable terminal block (32 pins)
Indication	Network LNK/ACT indication, Status Lamp, Power-on indication lamp, Channel indication lamps (32 channels)
Other	Firmware update function, System data hold function, Time of day hold facility, Reset switch (front panel)
Installation Method	Rack, Desk, Surface mount
Operating Temperature	0°C to +40°C
Operating Humidity	90% RH or less (no condensation)

**The following Network specifications shall apply:**

Description	Specification
Network I/F	10BASE-T/100BASE-TX (Automatic-Negotiation)
Network Protocol	TCP/IP, UDP, ARP, ICMP, HTTP, RTP, IGMP
Connector	RJ 45

**5.3.15.17 Telephone Interface Unit**

- a) The telephone interface unit shall be compatible with an IP network compatible intercom system.
- b) The unit shall have a single telephone line interface, allowing an analogue telephone to be connected.
- c) When connecting the unit to the LAN it should be able to function as the intercom master station.
- d) Unit shall be similar or equal to the N-8000AL.

**The following specifications shall apply:**

Description	Specification
Power Source	220 – 240V AC, 50/60Hz
Power Consumption	8W (Max.)
Indication	Network LNK/ACT indication, Status Lamp, Power-on indication lamp, Line connection indication lamp
Other	Firmware update function, System data hold function, Time of day hold facility, Reset switch (front panel)
Installation Method	Rack, Desk, Surface mount
Operating Temperature	0°C to +40°C
Operating Humidity	90% RH or less (no condensation)

**The following line specifications shall apply:**

Description	Specification
Number of Lines	1 line
Contact Signal Type	DTMF signal
Monitor Function	Line Loop detection
Control Function	Caller ID function
Wiring Method	1 pair of twisted pair cables

**The following Network specifications shall apply:**

Description	Specification
Network I/F	10BASE-T/100BASE-TX (Automatic-Negotiation)
Network Protocol	TCP/IP, UDP, ARP, ICMP, HTTP, RTP, IGMP
Audio Packet Transmission System	Unicast, Multicast
Connector	RJ45 connector

**5.3.15.18 C/O Interface Unit**

- a) The C/O interface unit shall employ packet audio technology.
- b) The unit shall possess an analogue central office line circuit allowing the intercom station to make and receive calls to and from the telephone line.
- c) The unit shall permit paging calls through the analogue subscriber line when connected to the LAN.
- d) The unit shall be equal or similar to the N-8000CO.

**The following specifications shall apply:**

Description	Specification
Power Source	220 – 240V AC, 50/60Hz
Power Consumption	7W (Max.)
Indication	Network LNK/ACT indication, Status Lamp, Power-on indication lamp, Line in-use lamp
Other	Firmware update function, System data hold function, Time of day hold facility, Reset switch (front panel)
Installation Method	Rack, Desk, Surface mount
Operating Temperature	0°C to +40°C
Operating Humidity	90% RH or less (no condensation)

**The following Line specifications shall apply:**

Description	Specification
Line	Public Switched telephone networks
Number of Lines	1 line
Selective Signal Type	DTMF signal
Signal System	Compatible with loop start signalling
Wiring System	Compatible with loop start signalling
Wiring Method	1 pair of twisted pair cables

**The following Network specifications shall apply:**

Description	Specification
Network I/F	10BASE-T/100BASE-TX (Automatic-Negotiation)
Network Protocol	TCP/IP, UDP, ARP, ICMP, HTTP, RTP, IGMP
Audio Packet Transmission System	Unicast, Multicast
Connector	RJ45 connector

**5.3.16 Accessories****5.3.16.1 30W Line Transformer**

- a) The line transformers shall be provided for high impedance operation and shall be capable of handling 30W.
- b) The units shall be similar or equal to the TOA MT-S0301 matching transformer.

The following specifications apply:

Description	Specification
Rated Input	High Impedance 100 V Line: 330 $\Omega$ (30 W), 1 k $\Omega$ (10 W) High impedance 70 V Line: 170 $\Omega$ (30 W), 330 $\Omega$ (15 W), 1 k $\Omega$ (5 W)
Secondary Terminal	8 $\Omega$

### 5.3.16.2

#### Power Amplifier Input Module

- a) The Power Amplifier Input Module shall be used in conjunction with the power amplifier.
- b) The unit shall be used for the transmission of status and audio signals between amplifier and control module.
- c) The unit offered shall be similar or equal to the TOA VP-200VX

The following specifications apply:

Description	Specification
Current Consumption	30 mA or less
Power Amplifier Link	RJ45, Twisted-pair straight cable (TIA/EIA568A standard)

### 5.3.16.3

#### Remote switch over box

- a) The remote switch over box shall be used to switch over a local PA to a central PA system, or to supply a line level signal into a local PA amplifier with priority.
- b) Four switch over contacts shall be available for priority control and switching over of speakers.

### 5.3.17

#### Connectors

#### 5.3.17.1

#### Pole Cable Connector (Speakon or Equivalent)

Connectors shall comply with the following specifications:

Description	Specification
<b>Electrical</b>	
Rated insulation voltage	250 V ac
Dielectric strength	4 kV peak
<b>Mechanical</b>	
Locking system	Quick lock (latch)
Life time (mating cycles)	>5000
<b>Material</b>	
Contacts	Brass (CuZn39Pb3)
Contact plating	4 $\mu$ m Ag
<b>Environment</b>	
Temperature Range	-30 $^{\circ}$ C to 80 $^{\circ}$ C
Flammability	UL94HB
Finger – Safety	IP2X/IEC 61984

Environment	
Solder ability	IEC 68-2-20

### 5.3.17.2 Connector Adapter (SpeakON or Equivalent)

Adapters shall comply with the following specifications:

Description	Specification
<b>Electrical</b>	
Rated insulation voltage	250 V ac
Dielectric strength	4 kV peak
<b>Mechanical</b>	
Locking system	Quick lock (latch)
Life time (mating cycles)	>5000
<b>Material</b>	
Contacts	Brass (CuSn6)
Contact plating	4 µm Ag
<b>Environment</b>	
Temperature Range	-30° C to 80° C
Flammability	UL94HB
Finger – Safety	IP2X/IEC 61984
Solder ability	IEC 68-2-20

### 5.3.17.3 Chassis Connector (SpeakON or Equivalent)

Chassis connectors shall comply with the following specifications:

Description	Specification
<b>Electrical</b>	
Rated insulation voltage	250 V ac
Dielectric strength	4 kV peak
<b>Mechanical</b>	
Locking system	Quick lock (latch)
Life time (mating cycles)	>5000
<b>Description</b>	
<b>Specification</b>	
<b>Material</b>	
Contacts	Spring copper
Contact plating	4 µm Ag
<b>Environment</b>	
Temperature Range	-30° C to 80° C
Protection class	IP 54 (mated condition) and IP 50 (8 pole, mated condition)
Flammability	UL94HB

Environment	
Finger – Safety	IP2X/IEC 61984
Solder ability	IEC 68-2-20

#### 5.3.17.4 1/4" Phone Plug (Neutrik or equivalent)

Phone plugs shall comply with the following specifications:

Description	Specification
<b>Electrical</b>	
Insulation resistance	Initial: > 2GΩ
Dielectric strength	1 kV dc
<b>Mechanical</b>	
Wiring	Solder terminals
Life time (mating cycles)	>1000
<b>Materials</b>	
Insulation	Polyamide
Contacts	Brass (CuZn39Pb3)
<b>Environment</b>	
Temperature Range	-20 <sub>0</sub> C to 65 <sub>0</sub> C
Solder ability	IEC 68-2-20

#### 5.3.17.5 MIL/B-Gauge plugs (Neutrik or equivalent)

Plugs shall comply with the following specifications:

Description	Specification
<b>Electrical</b>	
Insulation resistance	Initial: > 2GΩ
<b>Mechanical</b>	
Wiring	Solder terminals
Life time (mating cycles)	>1000
<b>Materials</b>	
Insulation	Polyamide
Contacts	Brass (CuZn39Pb3)
<b>Environment</b>	
Temperature Range	-20 <sub>0</sub> C to 65 <sub>0</sub> C
Solderability	M,IEC 68-2-20

**5.3.17.6 Bantam type miniature plug (Neutrik or equivalent)**

Miniature plugs shall comply with the following specifications:

Description	Specification
<b>Electrical</b>	
Insulation resistance	Initial: > 2GΩ
<b>Mechanical</b>	
Wiring	Solder terminals
Life time (mating cycles)	>1000
<b>Material</b>	
Contacts	Brass (CuZn39Pb3), Tip: CuSn6
Insulation	Polyamide
<b>Environment</b>	
Temperature Range	-20 <sub>o</sub> C to 65 <sub>o</sub> C
Solderability	IEC 68-2-20

**5.3.17.7 3.5mm Stereo plug (Neutrik or equivalent)**

Stereo plugs shall comply with the following specifications:

Description	Specification
<b>Electrical</b>	
Insulation resistance	Initial: > 2GΩ
<b>Mechanical</b>	
Wiring	Solder terminals
Life time (mating cycles)	>1000
<b>Material</b>	
Contacts	Brass (CuZn39Pb3)
Shell	Zinc die cast
<b>Environment</b>	
Temperature Range	-20 <sub>o</sub> C to 65 <sub>o</sub> C
Solderability	IEC 68-2-20

**5.3.17.8 Vertical Jack (Neutrik or equivalent)**

The following specifications shall apply:

Description	Specification
<b>Electrical</b>	
Contact resistance	Initial: < 10mΩ
Insulation resistance	≥ 1GΩ @ 500 V dc
Dielectric strength	1 kV dc

<b>Mechanical</b>	
Insertion/withdrawal force	<20 N/> 8N
Life time (cycles)	>10000
<b>Material</b>	
Contacts	CuSn6
Contact surface	0.2 µm Au
<b>Environment</b>	
Temperature Range	-25 <sup>o</sup> C to 70 <sup>o</sup> C
Solderability	IEC 68-2-20
<b>Standard compatibility</b>	
Concentric connector use in audio applications	IEC 60603-11

### 5.3.17.9 Locking 1/4" cable and chassis jack (Neutrik or equivalent)

The following specifications shall apply:

<b>Description</b>	<b>Specification</b>
<b>Electrical</b>	
Contact resistance	Initial: < 6mΩ
Insulation resistance	≥ 1GΩ @ 500 V dc
Dielectric strength	1 kV dc
<b>Mechanical</b>	
Insertion/withdrawal force	<30 N/> 20N
Life time (cycles)	>10000
Locking force	>80 N
<b>Material</b>	
Contacts	CuZn37
Contact surface	2 µm Ag
<b>Environment</b>	
Temperature Range	-25 <sup>o</sup> C to 70 <sup>o</sup> C
Solderability	IEC 68-2-20
<b>Standard compatibility</b>	
Concentric connector use in audio applications	IEC 60603-11

### 5.3.17.10 M Jack (Neutrik or equivalent)

The following specifications shall apply for jacks:

<b>Description</b>	<b>Specification</b>
<b>Electrical</b>	
Contact resistance	Initial: < 15mΩ
Insulation resistance	≥ 1GΩ @ 500 V dc

<b>Electrical</b>	
Dielectric strength	1 kV dc
<b>Mechanical</b>	
Insertion/withdrawal force	<30 N/> 10N
Life time (cycles)	>10000
Locking force	>80 N
<b>Description</b>	<b>Specification</b>
<b>Material</b>	
Contacts	CuSn6
Contact surface	0.2 μm Au
<b>Environment</b>	
Temperature Range	-25 <sup>o</sup> C to 70 <sup>o</sup> C
Solderability	IEC 68-2-20
<b>Standard compatibility</b>	
Concentric connector use in audio applications	IEC 60603-11

### 5.3.17.11 Slim Jack (Neutrik or equivalent)

The following specifications shall apply for slim jacks:

<b>Description</b>	<b>Specification</b>
<b>Electrical</b>	
Contact resistance	Initial: < 10mΩ
Insulation resistance	≥ 1GΩ @ 500 V dc
Dielectric strength	1 kV dc
<b>Mechanical</b>	
Insertion/withdrawal force	<30 N/> 10N
Life time (cycles)	>10000
Locking force	>80 N
<b>Material</b>	
Contacts	CuSn6
Contact surface	0.2 μm Au
<b>Environment</b>	
Temperature Range	-25 <sup>o</sup> C to 70 <sup>o</sup> C
Solderability	IEC 68-2-20
<b>Standard compatibility</b>	
Connector use in audio applications	IEC 60603-11

## 5.3.17.12 Stacking Jack (Neutrik or equivalent)

The following specifications shall apply for stacking jacks:

Description	Specification
<b>Electrical</b>	
Insulation resistance	≥ 1GΩ @ 500 V dc
Dielectric strength	1 kV dc
<b>Mechanical</b>	
Insertion/withdrawal force	<30 N/> 10N
Life time (cycles)	>10000
<b>Material</b>	
Contacts	CuSn6
Contact surface	Gal 0.2 μm Ag
<b>Environment</b>	
Temperature Range	-25 <sub>o</sub> C to 70 <sub>o</sub> C
Solderability	IEC 68-2-20

## 5.3.17.13 RCA connector (Neutrik or equivalent)

The following specifications shall apply for RCA connectors:

Description	Specification
<b>Electrical</b>	
Rated current per contact	10 A rms continuous
Insulation resistance	> 100GΩ
Dielectric strength	1.5 kV dc
<b>Mechanical</b>	
Wiring	soldering
Life time (cycles)	>2000
<b>Material</b>	
Contacts	Brass (CuZn39Pb3)
Contact plating	0.05 μm Au plated over 2 μm Ni
<b>Environment</b>	
Temperature Range	-30 <sub>o</sub> C to 80 <sub>o</sub> C
Solderability	IEC 68-2-20
Protection class	IP 40
Flammability	UL 94 HB

**5.3.17.14 Phono Socket (Neutrik or equivalent)**

The following specifications shall apply for Phono sockets:

Description	Specification
<b>Electrical</b>	
Rated current per contact	10 A rms continuous
Insulation resistance	< 5GΩ
Dielectric strength	0.5 kV dc
<b>Mechanical</b>	
Wiring	soldering
Life time (cycles)	>2000
<b>Material</b>	
Contacts	Zinc die cast (ZnAlCu1)
Contact plating	0.05 μm Au plated over 2 μm Ni
<b>Environment</b>	
Temperature Range	-30 <sub>0</sub> C to 80 <sub>0</sub> C
Solderability	IEC 68-2-20
Protection class	IP 40
Flammability	UL 94 HB

**5.3.17.15 XLR type connectors**

The following specifications shall apply:

Description	Specification
<b>Electrical</b>	
Contact resistance	≤3 mΩ
Rated Voltage	< 50 V ac
Insulation resistance	Initial: > 10GΩ
<b>Description</b>	
Dielectric strength	1.5 kV dc
<b>Mechanical</b>	
Life time (cycles)	>1000
Insertion / withdrawal force	≤ 20 N
<b>Material</b>	
Insert	Polyamide PA 6.6 30% GR
Latch lock	Zinc die cast (ZnAl4Cu1) / CK67 (Spring)
Strain-relief clamp	POM
Bushing	PA / PU
<b>Environment</b>	
Temperature Range	-30 <sub>0</sub> C to 80 <sub>0</sub> C
Solderability	IEC 68-2-20
Protection class	IP 40 or IP 67

Environment	
Flammability	UL 94 HB
Manufacturing	IEC 61076-2-103

### 5.3.17.16 XLR type receptacles

The following specifications shall apply:

Description	Specification
<b>Electrical</b>	
Contact resistance	≤6 mΩ
Rated Voltage	< 50 V ac
Insulation resistance	Initial: > 10GΩ
Dielectric strength	1.5 kV dc
<b>Mechanical</b>	
Insertion / withdrawal force	≤20 N
Life time (mating cycles)	> 1000
<b>Material</b>	
Contacts	CuSn6 female 3 pole and Brass CuZn35Pb2 male
<b>Description</b>	
Latch lock & spring	Ck 67 steel, treated
<b>Environment</b>	
Temperature Range	-30 <sub>0</sub> C to 80 <sub>0</sub> C
Solderability	IEC 68-2-20
Protection class	IP 40 or IP 65
Flammability	UL 94 HB

### 5.3.17.17 BNC Connectors

The following specifications shall apply:

Description	Specification	
Impedance	50 Ω	75 Ω
Frequency Range	0 – 4 GHz	0 – 1 GHz
VSWR	1.30 Max	
RF Insertion Loss	0.2 dB Min. at 3 GHz	
RF Leakage	-55 dB Min. at 3 GHz	
Insulation Resistance	> 5 MΩ	
Contact Resistance	< 3 mΩ	

**5.3.18****Cabling**

- a) All cables shall be properly marked to enable easy tracing from documentation. Network and ebus cables to be marked and to be clearly indicated on a diagram created on Auto-CAD or Visio.
- b) Communication cables shall be twisted pair-screened.
- c) The audio cable shall be Mylar cable.
- d) Cables shall be secured to cable trays where required.
- e) All surface cables shall be housed in suitable trunking/conduit.
- f) No rip or indoor cable shall be used unless specified by Project Manager.
- g) All wiring that is polarity dependant shall be colour coded.
- h) Where cables are not secured to a cable tray, conduit or ego ducting shall be installed, firmly fasten with screws/bolts and fisher plugs.
- i)

**5.3.18.1****Cat 5 Cable**

**The following specifications apply:**

Description	Specification
Networking	100Base-T
Frequency	100 MHz
Return Loss (Min. at 100MHz)	16.0 dB
Characteristic Impedance	100 $\Omega$ $\pm$ 15%
Attenuation (Min. at 100 MHz)	22 dB
Next (Min. at 100MHz)	18.3 dB

**5.3.18.2****Cat 5e Cable**

**The following specifications apply:**

Description	Specification
Networking	1000Base-T
Frequency	100 MHz
Return Loss (Min. at 100MHz)	20.1 dB
Characteristic Impedance	100 $\Omega$ $\pm$ 15%
Attenuation (Min. at 100 MHz)	22 dB
Next (Min. at 100MHz)	35.3 dB
PS-Next (Min. at 100MHz)	32.3 dB
ELFEXT (Min. at 100 MHz)	23.8 dB
PS-ELFEXT (Min. at 100 MHz)	20.8 dB
Delay Skew (Max. per 100 m)	45 ns

## 5.3.18.3

**Cat 6 Cable**

The following specifications applies:

Description	Specification
Networking	1000Base-TX
Frequency	250 MHz
Return Loss (Min. at 100MHz)	20.1 dB
Characteristic Impedance	100 $\Omega$ $\pm$ 15%
Attenuation (Min. at 100 MHz)	19.8 dB
Next (Min. at 100MHz)	44.3 dB
PS-Next (Min. at 100MHz)	42.3 dB
ELFEXT (Min. at 100 MHz)	27.8 dB
PS-ELFEXT (Min. at 100 MHz)	24.8 dB
Delay Skew (Max. per 100 m)	45 s

## 5.3.18.4

**Speaker Cable**

The following Specifications applies:

Description	Specification
<b>Construction</b>	
Conductor	Stranded bare copper
Insulation	PVC
Core arrangement	2 Cores twisted to a pair
<b>Mechanics</b>	
Min. bending radius	5 x overall diameter
Working temperature	-20 <sub>0</sub> C / + 70 <sub>0</sub> C
<b>Electric</b>	
Operating voltage	240V

## 5.3.18.5

**Microphone Cable**

The following Specifications applies:

Description	Specification
<b>Construction</b>	
Conductor	Copper
Outer jacket	PVC
Core arrangement	2 Cores
<b>Mechanics</b>	
Bending radius	30 mm
Working temperature	-20 <sub>0</sub> C / + 70 <sub>0</sub> C
<b>Electric</b>	
Conductor resistance	< 85 $\Omega$ /km
Conductor capacitance	60 pF/m
Conductor shield	110 pF/m

### 5.3.18.6 Analog Audio Installation Cable

The following specifications applies:

Description	Specification
<b>Construction</b>	
Conductor	Copper
Outer jacket	PVC
Core arrangement	2 Cores, twisted
<b>Mechanics</b>	
Bending radius	5 x overall diameter
Working temperature	-20 <sup>o</sup> C / + 70 <sup>o</sup> C
<b>Electric</b>	
Conductor resistance	< 85 $\Omega$ /km
Conductor capacitance	85 pF/m
Conductor shield capacitance	170 pF/m
Crosstalk attenuation	> 15 kHz / 100db
Insulation resistance	> 50 G $\Omega$ x km

### 5.3.18.7 Analog Audio Patch Cable

The following specifications applies:

Description	Specification
<b>Construction</b>	
Conductor	Copper
Outer jacket	PVC
Core arrangement	2 Cores, twisted
<b>Mechanics</b>	
Bending radius	15mm
Working temperature	-20 <sup>o</sup> C / + 70 <sup>o</sup> C
<b>Electric</b>	
Conductor resistance	< 125 $\Omega$ /km
Conductor capacitance	80 pF/m
Conductor shield	150 pF/m
Insulation resistance	> 1 G $\Omega$ x km

5.3.18.8 Mylar cable

The following specifications applies:

Description	Specification
<b>Construction</b>	
Insulation	Polyethylene
Conductor	Copper
Outer jacket	PVC
Core arrangement	Pairs stranded into a compact and symmetrical cable core
<b>Mechanics</b>	
Maximum operating temperature	70o C
<b>Electric</b>	
Conductor resistance	< 92 Ω/km
<b>Description</b>	
Conductor capacitance	80 pF/m
Conductor shield	150 pF/m
Insulation resistance	> 1 GΩ x km

5.4 Installation and Commissioning

Adherence to Installation and Commissioning
<p>Tenderers must complete the table below in this section to indicate compliance with the Installation and Commissioning Requirements. Where a requirement cannot be met in full, Tenderers must indicate “NO” in the column “YES / NO” and provide a comment as to how the requirement will be met or mitigated.</p> <p>Accept for questions marked with (M) the response in each table in the following sections are not for evaluation purposes.</p>

Compliance with Installation and Commissioning – 5.4 Installation and Commissioning		
	YES	NO
Does the tenderers’ response comply with all of the requirements as stated in 5.4.		

**Comments and/or explanation of mitigation where requirements cannot be fully adhered to. Additional information can be attached but must be properly referenced to this section:**

The City has a requirement for the installation and commissioning of public address systems. The successful Tenderer will be responsible for the installation and successful commissioning of the equipment and systems. This shall include but not be limited to power installations, cabling, software and equipment. Details of the envisaged cost breakdown, is given in the Price Schedules.

Specific requirements are as follows:

- 5.4.1** The City provides high level specification and requirements.
- 5.4.2** The installation and commissioning shall be of a high standard similar or better than the existing standard.
- 5.4.3** All the cost with respect to installation and commissioning shall be included in the tender price.
- 5.4.4** The installation and commissioning shall include all items for a complete and successful installation, which shall include the installation of hardware, software, accessories, including minor parts and any other additional items to enable a complete installation.
- 5.4.5** A detailed diagram of the installation indicating positions, routes and terminations shall be supplied to the City, on completion of each new installation and the cost thereof included in the tender price.
- 5.4.6** The onus shall be on the contractor to ensure that adequate capacity shall be available for multiple system installation and commissioning.
- 5.4.7** All installation and commissioning shall be of a high standard, acceptable to the Project Manager and any deviations from expected standards shall be rectified before additional orders are placed.
- 5.4.8** Unit prices shall be provided in the bill of quantities to enable the city to place orders for additional work.
- 5.4.9** The successful contractor will be required to provide quotations for each additional job based on the unit tender prices for the duration of the contract period.
- 5.4.10** The successful contractor will have to familiarise themselves with the cable routes and keep accurate records of work done and ensure that the current records are maintained.
- 5.4.11** Where applicable 19" cabinets shall be provided ensure the security of the equipment. Tenderers shall include power rails and fans.
- 5.4.12** The successful tenderer shall supply a list of equipment coupled with the serial numbers for each site when the equipment is handed over to the City.
- 5.4.13** The commissioning of the system at each site shall be undertaken in conjunction with the City's public address division.
- 5.4.14** It is the responsibility of the contractor to do his own quality checks and snagging in order to ensure that the completed works comply with the specification. On completion of the works or agreed section of the works, the contractor shall notify the project engineer/manager who will in turn snag the work and issue a snag list.
- 5.4.15** Thereafter, and upon notification by the contractor of completion of the snagged items, the project engineer/manager shall re-inspect these items in order to de-snag them. Only upon

the desnagging of all items on the list or those snag items in an agreed section of the works, shall the works, or such section of the works as agreed upon, be deemed to be complete for handing over purposes. Until such a completed state is achieved, the works, or those sections of the works as defined, shall remain under the contractor's responsibility and insured by him.

## 5.5 Maintenance

<b>Adherence to Maintenance</b>
<p><b>Tenderers must complete the table below in this section to indicate compliance with the Maintenance Requirements. Where a requirement cannot be met in full, Tenderers must indicate "NO" in the column "YES / NO" and provide a comment as to how the requirement will be met or mitigated. Accept for questions marked with (M) the response in each table in the following sections are not for evaluation purposes.</b></p>

<b>Compliance with Maintenance – 5.5 Maintenance</b>		
Does the tenderers' response comply with all of the requirements as stated in 5.5.	<b>YES</b>	<b>NO</b>
<p><b>Comments and/or explanation of mitigation where requirements cannot be fully to. adhered Additional information can be attached but must be properly referenced to this section:</b></p>		

The City's technical staff based at Cape Town Civic Centre and the Bellville Technical Centre are responsible for the repairs and maintenance of public address systems throughout the City and will be the first port of call for any breakdown. Details of the envisaged cost breakdown, is given in the Price Schedules.

Specific requirements are as follows:

- 5.5.1** The City's technical staff will undertake the first line maintenance depending on their capacity from 1 year after installation, commissioning and handover of the public address system.
- 5.5.2** The successful contractor shall provide the second line support and will be required to provide quotations for each additional job based on the unit tender prices for the duration of the contract period.
- 5.5.3** The successful contractor will have to familiarise themselves with the cable routes and keep accurate records of work done and ensure that the current records are maintained.
- 5.5.4** The City's technical staff based at the Bellville Technical Centre or Cape Town Civic Centre will have to be appraised of all repairs and to accept the work on completion before payment is recommended.
- 5.5.5** The second line support and faulty equipment replacement for the public address Systems covers all the hardware and software.
- 5.5.6** Tenderers shall ensure that they have the back-up support for both hardware and software from the parent companies who supply the public address equipment used by the City. A letter

from the parent company shall be included in the support documentation submitted with the tender.

- 5.5.7 For remedial maintenance services the contractor shall be paid either in accordance with the contractor's quotation if a quotation was requested or on a time and material basis at the rates quoted in the tender.
- 5.5.8 If the remedial maintenance exceeds 20 hours in a calendar month then the lower rate for remedial maintenance services exceeding 20 hours will apply. The contractor shall be required to keep accurate details of time spent for each job which will need to be certified by the Project Manager.
- 5.5.9 Each call-out for remedial maintenance shall be charged at a minimum of one hour plus travelling time and travelling expenses. Tenderers shall include in their pricing an inclusive call out fee.
- 5.5.10 Tenderers shall include in the schedule or in a covering letter what other components and accessories are available and the prices thereof. 5.5.11 The successful tenderer shall advise the City in time of discontinuations or changes to products and services.

**5.5.11.1 First line responsibilities shall include:**

- a) All system administration, configuration and programming
- b) First call out to faults
- c) Identifying and classification of faults to best of client's ability
- d) Modular replacement of suspect modules.
- e) Call out of second line support if required (Start of Performance Level Agreement clock)
- f) Provision of technical assistance to second line support
- g) Keep an adequate stock of spares for second line support
- h) Preventative maintenance

**5.5.11.2 Second line responsibilities shall include:**

- a) Acting on faults by reacting as per specified classification of faults and escalating until resolved
- b) Provision of technical and operator training on any changes to hardware or software
- c) Report back to client on resolving of fault (Stop of Performance Level Agreement clock).
- d) Tracking of all faults and providing monthly reports on faults and system statistics.
- e) Providing single point of contact on a 24/7/365 basis.

**5.5.11.3 City Responsibilities**

- a) City staff will affect first line support for all faults/incidents
- b) Resolve all issues falling outside the scope of the tender.
- c) City staff will be available to assist the tenderer with faults/incidents of a 2nd level and above

5.6 Performance Level Agreements and Support Statistics

**Adherence to Performance Level Agreements and Support Statistics**

Tenderers must complete the table below in this section to indicate compliance with the Performance Level Agreements and Support Statistics Requirements. Where a requirement cannot be met in full, Tenderers must indicate “NO” in the column “YES / NO” and provide a comment as to how the requirement will be met or mitigated. Accept for questions marked with (m) the response in each table in the following sections are not for evaluation purposes.

Compliance with Performance Level Agreements and Support Statistics – 5.6 Performance Level Agreements and Support Statistics		
	YES	NO
Does the tenderers’ response comply with all of the requirements as stated in 5.6.		
<b>Comments and/or explanation of mitigation where requirements cannot be fully adhered to. Additional information can be attached but must be properly referenced to this section:</b>		

The performance of the installed Public Address Systems shall be bound by the specified Performance Level Agreements in order to ensure that their performance is of a satisfactory nature. Furthermore, any disruption to service affecting the availability of the Public Address Systems requires tenderers to resolve service affecting incidents.

Specific requirements are as follows:

- 5.6.1 (M) Tenderers shall state that they are capable of and undertake to meet all the Performance Level Agreement (PLA) requirements as specified in this tender as per (9) Form of Guarantee: Performance: Public Address Systems and (9.1): Severity Classification.  
**PLEASE NOTE - TENDERS MUST COMPLETE THE “TENDERERS RESPONSE” COLUMN IN (9) Form of Guarantee TO CONFIRM THE TENDERERS RESPONSE TO THIS MANDATORY REQUIREMENT.**
- 5.6.2 The severity classification of faults and the required response thereto shall be as indicated in (9.1): Severity Classification.
- 5.6.3 The successful tenderer shall have at least one team available on a 24/7/365 basis to successfully cater for all the PLA requirements of the tender.
- 5.6.4 Should more than one incident occur, the incidents will be prioritized and tenderers therefore do not have to make provision for dealing with more than one incident simultaneously.
- 5.6.5 The successful tenderer shall implement and manage a call out procedure as per paragraph 6.16 whereby the system PLA parameters and reliability/availability statistics shall be measured and reported on.
- 5.6.6 The successful tenderer shall on a monthly basis report on all the PLA parameters and reliability/availability statistics as indicated in (9): Performance : Public Address Systems.
- 5.6.7 The successful tenderer shall record all faults, incidents, call outs, repair times, up times on the system for all components in order to provide monthly statistics to the City in order to monitor the PLA and reliability/availability parameters. These reports must be auditable by the City. Tenderers to describe fully how this will be implemented.

**5.7 Health and Safety**

**Adherence to Health and Safety**

Tenderers must complete the table below in this section to indicate compliance with the Health and Safety Requirements. Where a requirement cannot be met in full, Tenderers must indicate “NO” in the column “YES / NO” and provide a comment as to how the requirement will be met or mitigated. Accept for questions marked with (M) the response in each table in the following sections are not for evaluation purposes.

Compliance with Health and Safety – 5.7 Health and Safety		
Does the tenderers’ response comply with all of the requirements as stated in 5.7.	YES	NO
Comments and/or explanation of mitigation where requirements cannot be fully to adhered to. Additional information can be attached but must be properly referenced to this section:		

**5.7.1** The tenderer shall be registered as an employer under the Occupational Health Act, provide proof, comply with the legislation and to complete, prior to commencement of services, a Form of Undertaking issued by the City. Please also refer and respond to **Schedule 9: Occupational Health and Safety Agreement**.

**5.7.2** Tenderers shall provide documentation of their Health and Safety policy and procedures together with staff safety training certification.

**5.8 Spares and Accessories**

**Adherence to Spares and Accessories**

Tenderers must complete the table below in this section to indicate compliance with the Spares and Accessories Requirements. Where a requirement cannot be met in full, Tenderers must indicate “NO” in the column “YES / NO” and provide a comment as to how the requirement will be met or mitigated. Accept for questions marked with (M) the response in each table in the following sections are not for evaluation purposes.

Compliance with Health and Safety – 5.8 Spares and Accessories		
Does the tenderers’ response comply with all of the requirements as stated in 5.8.	YES	NO
Comments and/or explanation of mitigation where requirements cannot be fully adhered to. Additional information can be attached to, but must be properly referenced to this section:		

**5.8.1** Tenderers shall provide a comprehensive list of modules, spares and accessories for the public address systems tendered for in the pricing schedule as optional items. The City may order these accessories at any time during the tender period. This information must be submitted together with the tender response in **Schedule 16 B Modules, Spares and Accessories for Public Address Systems Repairs**.

**5.8.2** Tenderers shall guarantee that an adequate supply of items as listed in the spares and accessories list is readily available for at least 5 years.

**5.9 Technical Support and Capacity**

<b>Adherence to Technical Support and Capacity</b>
<b>Tenderers must complete the table below in this section to indicate compliance with the Technical Support and Capacity Requirements. Where a requirement cannot be met in full, Tenderers must indicate “NO” in the column “YES / NO” and provide a comment as to how the requirement will be met or mitigated. Accept for questions marked with (M) the response in each table in the following sections are not for evaluation purposes.</b>

<b>Compliance with Technical Support and Capacity – 5.9 Technical Support and Capacity</b>		
Does the tenderers’ response comply with all of the requirements as stated in 5.9.	<b>Y E S</b>	<b>NO</b>
<p><b>Comments and/or explanation of mitigation where requirements cannot be fully adhered to. Additional information can be attached to, but must be properly referenced to this section:</b></p>		

**5.9.3** The tenderer shall have adequate technical and administrative staff and infrastructure to support the services offered on a 24/7/365 basis.

**5.9.4** The tenderer shall have enough adequately trained and certified technical staff to ensure that the SLA parameters can be met at all times.

**5.9.5** **The tenderer shall have sufficient capacity** to handle two installations using separate teams during working hours and have one standby team available after hours. Tenderers shall provide details of certified technical staff that will be assigned to this work, their vehicles, and equipment.

**5.9.6** The City’s Engineer or representative shall have the right, during evaluation of the tender and for duration of the contract, to visit these premises to ensure adequate facilities and resources are available.

**5.9.7** The successful contractors will be required to provide technical and operator training in Cape Town on all items of equipment offered.

**5.9.8** The city will provide the venue of the training session but the cost of training materials shall

be borne by the successful contractor. Provision must be made to train a minimum of 4 staff per training course.

**5.9.9** The technical training program shall enable the City's technician to undertake first and second line maintenance, trouble shooting and repair/replacement down to replacement modular level.

**5.9.10** Training shall also include software programming training for system setup and diagnostics.

**5.9.11** Two copies of equipment service and operating manuals shall be supplied for each type of equipment.

**5.10 Previous Installations and Experience**

**5.10.1** Tenderers will only be considered if references are provided of existing installations of fully operational systems utilising similar technology that are of the same scale and have been fully operational for a period of time. Tenderers shall complete **Schedule F13 Previous Installations and Experience Applicable to This Tender** indicating relevant experience applicable to this tender.

**5.11 Compliance with Specification**

**5.11.1** Tenderers shall complete and submit with their tenders the relevant compliancy statement leading each section of **(5) Specifications**.

**5.11.2** The technical information submitted shall be supported by Manufacturer's documents.

**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'**

## C.6 SPECIAL CONDITIONS OF CONTRACT

The following Special Conditions of Contract, referring to the National Treasury – Conditions of Contract (revised July 2010), are applicable to this agreement.

### 1. Definitions

*Insert new clause 1.1A with the following:*

- 1.1A “Commencement Date” means the date the Supplier confirms receipt from the Purchaser of 1 (one) complete, signed copy of the Contract, the *Schedule of Deviations* (if any).
- 1.1B “Conditions of Contract” means the general conditions of contract and special conditions of contract including all other contract data incorporated by reference.

*Delete Clause 1.15 and substitute with the following*

- 1.15 The word ‘Goods’ is to be replaced everywhere it occurs in the GCC with the phrase ‘Goods and / or Services’ which means all of the equipment, machinery, materials, services, products, consumables, etc. that the Supplier is required to deliver to the Purchaser under the agreement. This definition shall also be applicable, as the context requires, anywhere where the words “supplies” and “services” occurs in the GCC.

*Delete Clause 1.19 and substitute with the following*

- 1.19 The word ‘Order’ is to be replaced everywhere it occurs in the GCC with the words ‘Purchase Order’ which means the official purchase order authorised and released on the Purchaser’s SAP System.

*Delete Clause 1.21 and substitute with the following:*

- 1.21 ‘Purchaser’ means the City of Cape Town. The address of the Purchaser is 12 Hertzog Boulevard, Cape Town, 8001 (chosen domicilium citandi et executandi).

*Add the following after Clause 1.25:*

- 1.26 ‘Supplier’ means the provider of Goods and / or Services with whom the Contract is concluded also referred to as “contractor” in the GCC.
- 1.27 "Intellectual Property" means any and all intellectual property rights of any nature anywhere in the world whether registered, registerable or otherwise, including patents, trademarks, registered designs and domain names, applications for any of the foregoing, trade or business names, copyright and rights in the nature of copyright, design rights, rights in databases, know-how, trade secrets and any other intellectual property rights which subsist in computer software, computer programs, websites, documents, information, techniques, business methods, drawings, logos, instruction manuals, lists and procedures and particulars of customers, marketing methods and procedures and advertising literature, including the "look and feel" of any websites
- 1.28 “Working Day” means Monday to Friday excluding weekends and Public Holidays (in the Republic of Sotuh Africa).

### 3. General Obligations

*Delete Clause 3.2 in its entirety and replace with the following clauses.*

- 3.2 The Parties will be liable to each other arising out of or in connection with any breach of the obligations detailed or implied in this contract, subject to clause 28.
- 3.3 If the Supplier is a joint venture, all parties in a joint venture or consortium shall be jointly and severally liable to the Purchaser in terms of the Contract and shall carry individually the minimum levels of insurance stated in the Contract, if any.

- 3.4 The Parties shall comply with all laws, regulations and bylaws of local or other authorities having jurisdiction regarding the Delivery of the Goods and/or Services and give all notices and pay all charges required by such authorities.
- 3.4.1 The Parties agree that this Contract shall also be subject to the CCT's Supply Chain Management Policy ("SCM Policy") that was applicable on the date the bid was advertised as amended from time to time. If the Purchaser adopts a new SCM Policy which contemplates that any clause therein would apply to the Contract emanating from this tender, such clause shall also be applicable to the Contract. Please refer to this document contained on the CCT's website.
- 3.4.2 Abuse of the supply chain management system is not permitted and may result in termination of the Contract, restriction of the Supplier, and/or the exercise by the CCT of any other remedies available to it as described in the SCM Policy or in law.
- 3.5 The Supplier shall:
- 3.5.1 Arrange for the documents listed below to be provided to the Purchaser prior to the issuing of the Purchase Order by the Purchaser and no later than the periods as set out in the Contract:
- a) Proof of Insurance (Refer to Clause 11) or Insurance Broker's Warrantee,
  - b) Letter of good standing from the Compensation Commissioner, or a licensed compensation insurer (Refer to Clause 11),
  - c) Initial delivery programme, and
  - d) Other requirements as detailed in the Contract.
- 3.5.2 Only when notified of the acceptance of the bid on the Date of Commencement of Contract, the Supplier shall commence with and carry out the Delivery of the Goods and/or Services in accordance with the Contract, to the satisfaction, of the Purchaser.
- 3.5.3 Provide all of the necessary materials, labour, plant and equipment required for the delivery of the Goods and/or Services including any temporary services that may be required.
- 3.5.4 Insure his workmen and employees against death or injury arising out of the delivery of the Goods.
- 3.5.5 Be continuously represented during the Delivery of the Goods and/or Services by a competent representative duly authorised to execute instructions.
- 3.5.6 In the event of a loss resulting in a claim against the insurance policies stated in clause 11, pay the first amount (excess) as required by the insurance policy.
- 3.5.7 Comply with all written instructions from the Purchaser subject to clause 18.
- 3.5.8 Complete and Deliver the goods within the period stated in clause 10, or any extensions thereof in terms of clause 21.
- 3.5.9 Make good at his own expense, all incomplete and defective Goods during the warranty period.
- 3.5.10 Pay to the Purchaser any penalty for delay as due on demand by the Purchaser. The Supplier hereby consents to such amounts being deducted from any payment due to the Supplier.
- 3.5.11 Comply with the provisions of the OHAS Act & all relevant regulations.
- 3.5.12 Comply with all laws relating to wages and conditions generally governing the employment of labour in the Cape Town area and any applicable Bargaining Council agreements.
- 3.5.13 Deliver the Goods in accordance with the Contract and with all reasonable care, diligence and skill in accordance with generally accepted professional techniques and standards.
- 3.6 The Purchaser shall:
- 3.6.1 Issue Purchaser Orders for the Goods and/or Services required under this Contract. No liability for payment will ensue for arising out of the Delivery of the Goods and/or Services, unless a Purchase Order has been issued to the Supplier.

- 3.6.2 Make payment to the Supplier for the Goods and/or Services as set out herein.
- 3.6.3 Take possession of the Goods and /or Services upon Delivery by the Supplier.
- 3.6.4 Regularly inspect the Goods to establish that it is being delivered in compliance with the Contract.
- 3.6.5 Give any instructions and/or explanations and/or variations to the Supplier including any relevant advice to assist the Supplier to understand the Contract.
- 3.6.6 Grant or refuse any extension of time requested by the Supplier of the period stated in clause 10.
- 3.6.7 Inspect the Goods and/or Services to determine if, in the opinion of the Purchaser, it has been delivered in compliance with the Contract, alternatively in such a state that it can be properly used for the purpose for which it was intended.
- 3.6.8 Brief the Supplier and issue all documents, information, etc. in accordance with the contract.

**5. Use of contract documents and information; inspection, copyright, confidentiality, etc.**

*Add the following after clause 5.4:*

- 5.5 Copyright of all documents prepared by the Supplier in accordance with the relevant provisions of the Copyright Act (Act 98 of 1978) relating to the Contract shall be vested in the Purchaser. Where copyright is vested in the Supplier, the Purchaser shall be entitled to use the documents or copy them only for the purposes for which they are intended in regard to the agreement and need not obtain the Supplier's permission to copy it for such use. Where copyright is vested in the Purchaser, the Supplier shall not be liable in any way for the use of any of the information other than as originally intended in terms of the agreement and the Purchaser hereby indemnifies the Supplier against any claim which may be made against it by any person / entity, arising from the use of such documentation for other purposes.

The ownership of data and factual information collected by the Supplier and paid for by the Purchaser shall, after payment, vest with the Purchaser.

- 5.6 **Publicity and publication**  
The Supplier shall not release public or media statements or publish material related to the services or agreement within two (2) years of Delivery of the Goods, without the written approval of the Purchaser, which approval shall not be unreasonably withheld.
- 5.7 **Confidentiality**  
Both Parties shall keep all information obtained by them in the context of the agreement, confidential and shall not divulge it without the written approval of the other Party.
- 5.8 **Intellectual Property**
  - 5.8.1 The Supplier acknowledges that it shall not acquire any right, title or interest in or to the Intellectual Property of the Purchaser.
  - 5.8.2 The Supplier hereby assigns to the Purchaser, all Intellectual Property created, developed or otherwise brought into existence by it for the purposes of the agreement, unless the Parties expressly agree otherwise in writing.
  - 5.8.3 The Supplier shall, and warrants that it shall:
    - 5.8.3.1 Not be entitled to use the Purchaser's Intellectual Property for any purpose other than as contemplated in the agreement;
    - 5.8.3.2 not modify, add to, change or alter the Purchaser's Intellectual Property, or any information or data related thereto, nor may the Supplier produce any product as a result of, including and/or arising from any such information, data and Intellectual Property, and in the event that it does produce any such product, the product shall be, and be deemed in law to be, owned by the Purchaser;

- 5.8.3.3 Not apply for or obtain registration of any domain name, trademark or design which is similar to any Intellectual Property of the Purchser;
- 5.8.3.4 Comply with all reasonable directions or instructions given to it by the Purchaser in relation to the form and manner of use of the CCT Intellectual Property, including without limitation, any brand guidelines which the Purchaser may provide to the Supplier from time to time;
- 5.8.3.5 Ensure that its employees, directors, members and contractors comply strictly with the provisions of this Clause 5.5.8.4 above unless the Purchaser expressly agrees to the contrary, in writing and only after obtaining due internal authority for such agreement.
- 5.8.4 The Supplier represents and warrants to the Purchaser that, in providing Goods and/or Services for the duration of the agreement it will not infringe or make unauthorised use of the Intellectual Property rights of any third party and hereby indemnifies the Purchaser from any claims, liability, loss, damages, costs, and expenses arising from the infringement or unauthorised use by the Supplier of any third party's Intellectual Property rights.
- 5.8.5 Upon expiry of the contract period and in the event that the Contract is terminated, ended or is declared void, any and all of the Purchaser's Intellectual Property, and any and all information and data related thereto, shall be immediately handed over to the Purchaser by the Supplier and no copies thereof shall be retained by the Supplier unless the Purchaser expressly and in writing, after obtaining due internal authority, agrees otherwise.

*Add the following after clause 5.8:*

**5.9 Protection of Personal Information Act of 2013**

By submitting a tender to the Purchaser, (and by concluding any ensuing related agreement with the City of Cape Town, if applicable), the Tenderer thereby acknowledges and unconditionally agrees:

- 5.9.1 that the tenderer has been informed of the purpose of the collection and processing of its personal information as defined in the Protection of Personal Information Act of 2013 ("POPIA"), which, for the avoidance of doubt is for, and in relation to, the tender process and the negotiation, conclusion, performance and enforcement of the ensuing agreement, if applicable, as well as for the City of Cape Town's reporting purposes;
- 5.9.2 to the collection and processing of the tenderer's personal information by the City of Cape Town and agrees to make available to the City of Cape Town, all information reasonably required by the City of Cape Town for the above purposes;
- 5.9.3 that the personal information the City of Cape Town collects from the tenderer or about the tenderer may be further processed for other activities and/or purposes which are lawful, reasonable, relevant and not excessive in relation to the purposes set out above, for which it was originally collected;
- 5.9.4 that, the tenderer indemnifies the City of Cape Town and its officials, employees, and directors and undertakes to keep the City of Cape Town and its officials, employees, and directors indemnified in respect of any claim, loss, demands, liability, costs and expenses of whatsoever nature which may be made against the City of Cape Town (including the costs incurred in defending or contesting any such claim) in relation to the tenderer or the tenderer's employees', representatives' and/or sub-Suppliers' non-compliance with POPIA and/or the City of Cape Town's failure to obtain the tenderer's consent or to notify the tenderer of the reason for the processing of the tenderer's personal information;
- 5.9.5 to the disclosure of the tenderer's personal information by the City of Cape Town to any third party, where the City of Cape Town has a legal or contractual obligation to disclose such personal information to the third party (or a legitimate interest 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

Not Applicable. Tenderers must disregard the **Pro Forma Performance Security/ Guarantee** and are not required to furnish same.

## 8. Inspections, tests and analyses

*Delete Clause 8.2 and substitute with the following:*

- 8.2 If it is a bid condition that Goods and/or Services to be produced or services to be rendered should at any stage during production or execution or on completion be subject to inspection, the premises of the bidder or Supplier shall be open, at all reasonable hours, for inspection by a representative of the Purchaser or an organisation acting on behalf of the Purchaser.

## 10. Delivery and documents

*Delete clauses 10.1 and 10.2 and replace with the following:*

- 10.1 Delivery of the goods shall be made by the Supplier in accordance with the terms specified in the contract. The time for Delivery of the goods shall be the date as stated on the Purchase Order. In the case of agreements for Delivery of goods in terms of framework or panel agreements, Purchase Orders for the supply and delivery of goods may be raised up until the expiry of a framework or panel agreement, provided that the goods can be delivered within 30 (thirty) days of expiry of the framework or panel agreement. In this context, the "goods" does not include services and carries its ordinary meaning. All Purchase Orders other than for the supply and Delivery of goods (i.e. supply of services, professional services or constructions works), must be completed prior to the expiry of the contract period.
- 10.2 The Purchaser shall determine, in its sole discretion, whether the Goods and/or Services have been delivered in compliance with the Contract, alternatively in such a state that it can be properly used for the purpose for which it was intended. When the Purchaser determines that the Goods and/or Services have been satisfactorily delivered, the Purchaser must issue an appropriate certification, or written approval, to that effect. Invoicing may only occur, and must be dated, on or after the date of such written acceptance of the Goods.

## 11. Insurance

*Add the following after clause 11.1:*

- 11.2 Without limiting the obligations of the Supplier in terms of this Contract, the Supplier shall effect and maintain the following additional insurances:
- 11.2.1 Public liability insurances, in the name of the Supplier, covering the Supplier and the Purchaser against liability for the death of or injury to any person, or loss of or damage to any property, arising out of or in the course of this Contract, in an amount not less than **[R20 million]** for any single claim;
- 11.2.2 Motor Vehicle Liability Insurance, in respect of all vehicles owned and / or leased by the Supplier, comprising (as a minimum) "Balance of Third Party" Risks including Passenger Liability Indemnity;
- 11.2.3 Registration / insurance in terms of the Compensation for Occupational Injuries and Disease Act, Act 130 of 1993. This can either take the form of a certified copy of a valid Letter of Good Standing issued by the Compensation Commissioner, or proof of insurance with a licenced compensation insurer, from either the Supplier's broker or the insurance company itself (see the Pro Forma Insurance Broker's Warranty).
- [11.2.4 In the case of Contracts for delivery of professional services, Professional indemnity insurance providing cover in an amount of not less than **[R5 million]** in respect of each and every claim during the contract period.]

11.2.5 In the event of under insurance or the insurer’s repudiation of any claim for whatever reason, the Purchaser will retain its right of recourse against the Supplier.

11.3 The Supplier shall be obliged to furnish the Purchaser with proof of such insurance as the Purchaser may require from time to time for the duration of this Contract. Evidence that the insurances have been effected in terms of this clause, shall be either in the form of an insurance broker’s warranty worded precisely as per the pro forma version contained in the Pro forma Insurance Broker’s Warranty or copies of the insurance policies.

**15. Warranty**

*Add to Clause 15.2:*

15.2 The warranty for this Contract shall remain valid for twelve (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*

16.5 Notwithstanding any amount stated on the Purchase Order, the Supplier shall only be entitled to payment for Goods and/or Services actually delivered in terms of the Specification and Drawings, or any variations thereof made in accordance with clause 18. Any contingency sum included shall be for the sole use, and at the discretion, of the Purchaser.

16.6 The Purchaser will only make advanced payments to the Supplier in strict compliance with the terms and conditions as contained in the Pro forma Advanced Payment Guarantee and only once the authenticity of such guarantee has been verified by the Purchaser’s Treasury Department.

16.6.1 The Advance Payment Schedule applicable to this Contract is set out below. The items of plant and materials which have been identified by the Purchaser as being suitable for advance payment in terms of this Contract are listed in the table below, and for which the Purchaser is prepared to make advance payment to the Supplier, subject to the conditions below. Should an item or items be added to the list at tender stage by a tenderer, no obligation to advance payment shall be incurred by the Purchaser, for such items added by the tenderer except as provided for herein.

Plant and materials which have been manufactured and are stored by the supplier	Plant and materials yet to be manufactured and for which a deposit with order is required from the supplier by a third party manufacturer/supplier, and which may be stored by the supplier:
Not Applicable	

- 16.6.2 The Supplier can only rely on advance payment being permitted by the Purchaser in respect of the plant and materials listed in the table above. The Purchaser may, however, permit advance payment for other plant and materials in exceptional circumstances and at its sole discretion, during the course of the Contract, and upon reasonable request from the Supplier.
- 16.6.3 Advance payment for the purposes of deposits will only be provided up to a limit of **[Not Applicable]** of the value of any one item being claimed.
- 16.6.4 The Supplier shall provide the Purchaser with documentary evidence of the terms and conditions for which a deposit with order is required by a third party manufacturer/supplier, together with the advance payment guarantee.
- 16.6.5 The Supplier will also be permitted to obtain advance payment for the balance of the value of the plant and materials in respect of which he has paid a deposit, for an item which after manufacture is stored by the Supplier. The Supplier shall, in respect of such payment, provide an advance payment guarantee, either for such balance or, if the advance payment guarantee in respect of the deposit is to be returned by the Purchaser upon request, for the whole value of the item.

## 17. Prices

*Add the following after clause 17.1*

- 17.2 If as a result of an award of a contract beyond the original tender validity period, the contract execution will be completed beyond a period of twelve (12) months from the expiry of the original tender validity period, then the contract may be subject to contract price adjustment for that period beyond such twelve (12) months. An appropriate contract price adjustment formula will be determined by the Purchaser delegated authority if such was not included in the bid documents.
- 17.3 If as a result of any extension of time granted, the contract execution will be completed beyond a period of twelve (12) months from the expiry of the original tender validity period, then contract price adjustment may apply to that period beyond such twelve (12) months. An appropriate contract price adjustment formula will be determined by the Director: Supply Chain Management if such was not included in the bid documents.
- 17.4 Prices are firm and not subject to adjustment

## 18. Contract Amendments

*Delete the heading of clause 18 and replace with the following:*

### 18. Contract Amendments and Variations

*Add the following to clause 18.1:*

Variations means changes to the Goods and/or Services, extension of the contract period or increases in the value of the Contract as a result of written instructions issued by the Purchaser to the Supplier. Such changes are subject to prior approval by the Purchaser's delegated authority. Should the Supplier deliver any Goods not described in a written instruction from the Purchaser, the Purchaser's liability for payment shall no arise until such time as the change has been duly approved and such approval communicated to the Purchaser.

## 20. Subcontracts

*Add the following after clause 20.1:*

- 20.2 The Supplier shall be liable for the acts, defaults and negligence of any subcontractor, his agents or employees as fully as if they were the acts, defaults or negligence of the Supplier.
- 20.3 Any appointment of a subcontractor shall not amount to a contract between the Purchaser and the subcontractor, or a responsibility or liability on the part of the Purchaser to the subcontractor and shall not 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 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 as stated herein for each day of the delay until actual delivery or performance.

The penalty for this contract shall be **5%** of the project/work quotation if SLA,s are not maintained.

- 22.2 The purchaser shall, without prejudice to its other remedies under the contract, deduct from the contract price, financial penalties as contained on the **Preference Schedule** relating to breaches of the conditions upon which preference points were awarded.

No.	Description	Type of support	Minimum Number of Systems	Performance Level Agreement
1	Large Public Address Systems	High level support, 2nd line and above	4	Availability (During working hours), excluding planned maintenance) >95% Severity 1 = 4 Hours to site 24/7/365, Restore = 8 hours Severity 2 = Next day to site 24/7/365, Restore 8 hours Severity 3 = Next working day, Restore 1 day Severity 4 = Restore 5 working days
2	Large Public Address faulty equipment repair	Equipment repair	4	6 weeks to repair
3	Small Public Address Systems at facilities	High level support, 2nd line and above	40	Availability (During working hours), excluding planned maintenance) >95% Severity 1 =4 Hours to site 24/7/365, Restore =8 hours Severity 2 = Next day to site 24/7/365, Restore 8 hours Severity 3 = Next working day, Restore 1 day Severity 4 = Restore 5 working days
4	Small Public Address Systems faulty equipment repair	Equipment repair	40	6 weeks to repair

## 9.1: SEVERITY CLASSIFICATION

Description	Classification
More than 10% of speakers are affected. More than 1 amplifier faulty Failure of system A critical priority failure at a site	Severity 1
A medium priority failure at a site Failure of one amplifier Less than 10% of speakers are affected Failure of cables	Severity 2
A low priority failure at site This defined as a request for undertaking procedural work such as reports or reconfiguring system components or assistance with parameters or settings.	Severity 3
This is defines as assistance with routine or planned maintenance or upgrades	Severity 4

**Note: The overall system performance classification will override any other individual classification. The city may elevate the severity of a specific site with mutual agreement for special events**

### **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](http://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**



*Letterhead of supplier’s Insurance Broker*

Date \_\_\_\_\_

CCT  
City Manager  
Civic Centre  
12 Hertzog Boulevard  
Cape Town  
8000

Dear Sir

**TENDER NO.:** 220S/2023/24

**TENDER DESCRIPTION: SUPPLY, INSTALLATION AND MAINTENANCE PUBLIC ADDRESS SYSTEMS SYSTEMS**

**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)



ANNEX 1 (continued)

MONTHLY PROJECT LABOUR REPORT

BENEFICIARY DETAILS AND WORK INFORMATION



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**

**NOT APPLICABLE**

## **Annexure D - Pro Forma Advance Payment Guarantee**

**NOT APPLICABLE**

**Approved Financial Institution as at 28 February 2023:**

**NOT APPLICABLE**

## Annexure F - Tender Returnable Documents

<b>Schedule F.1: Contract Price Adjustment</b>
--

NOT APPLICABLE

**Schedule F.2: Certificate of Authority for Partnerships/ Joint Ventures/ Consortia**

**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 excussion 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); and

- 1.2 **To be completed by the organ of state**  
*[Delete whichever is not applicable for this tender]*

The applicable preference point system for this tender is the 80/20 preference point system.

- 1.3 Points for this tender 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:

	<b>POINTS</b>
<b>PRICE</b>	80
<b>SPECIFIC GOALS</b>	20
<b>Total points for Price and SPECIFIC GOALS</b>	<b>100</b>

- 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) "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 OR 90/10 PREFERENCE POINT SYSTEMS**

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

80/20 or 90/10

Or

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**

NOT APPLICABLE

**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 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.		
<b>SIGNATURE OF CCT OFFICIALS AT TENDER OPENING</b>		
1.	2.	3.

## Schedule F.5: Declaration of Interest – State Employees (MBD 4 amended)

1. No bid will be accepted from:
  - 1.1 persons in the service of the state<sup>1</sup>, 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, shareholder<sup>2</sup>): \_\_\_\_\_
  - 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)

**<sup>1</sup>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.

**<sup>2</sup> 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><b>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?</b></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><b>The Database of Restricted Suppliers now resides on the National Treasury's website (<a href="http://www.treasury.gov.za">www.treasury.gov.za</a>) and can be accessed by clicking on its link at the bottom of the home page.</b></p>	Yes <input type="checkbox"/>	No <input type="checkbox"/>
2.1.1	If so, furnish particulars:		
2.2	<p><b>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?</b></p> <p><b>The Register for Tender Defaulters can be accessed on the National Treasury's website (<a href="http://www.treasury.gov.za">www.treasury.gov.za</a>) by clicking on its link at the bottom of the home page.</b></p>	Yes <input type="checkbox"/>	No <input type="checkbox"/>
2.2.1	If so, furnish particulars:		
2.3	<p><b>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?</b></p>	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

<b>Schedule F.8: Authorisation for the Deduction of Outstanding Amounts Owed to the CCT</b>
---

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="margin: 0;">Schedule F.9: Certificate of Independent Tender Determination</h2>
---

I, the undersigned, in submitting this **Tender Number 220S/2023/24 and Tender Description: Supply, Installation And Maintenance Public Address Systems Systems** in response to the tender invitation made by THE CCT, do hereby make the following statements, which I certify to be true and complete in every respect:

I certify, on behalf of: \_\_\_\_\_ (Name of tenderer) that:

1. I have read and I understand the contents of this Certificate;
2. I understand that this tender will be disqualified if this Certificate is found not to be true and complete in every respect;
3. I am authorised by the tenderer to sign this Certificate, and to submit this tender, on behalf of the tenderer;
4. Each person whose signature appears on this tender has been authorised by the tenderer to determine the terms of, and to sign, the tender on behalf of the tenderer;
5. For the purposes of this Certificate and this tender, I understand that the word 'competitor' shall include any individual or organisation other than the tenderer, whether or not affiliated with the tenderer, who:
  - (a) has been requested to submit a tender in response to this tender invitation;
  - (b) could potentially submit a tender in response to this tender invitation, based on their qualifications, abilities or experience; and
  - (c) provides the same goods and services as the tenderer and/or is in the same line of business as the tenderer.
6. The tenderer has arrived at this tender independently from and without consultation, communication, agreement or arrangement with any competitor. However, communication between partners in a joint venture or consortium<sup>1</sup> 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

**(<sup>1</sup> 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.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

<b>Schedule F.12: Record of Addenda to Tender Documents</b>
---

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:

**Functionality Requirements**

Evaluation Criteria	Client Names	Years (Project/Contract start and End)	Relevant Project/Contract	Proof submitted Yes/No (Reference all proof appropriately)
<b>Criteria 1 Credible Company</b> Please provide the number of years the tenderer has been actively providing services for Public Address and related systems.				
	Contract Manager Name	Years of Experience	Relevant Project/Contract	Proof submitted Yes/No (Reference all proof appropriately)
<b>Criteria 2 Company Resources Contract Manager..</b> Please provide the number of years the Contract Manager has been actively providing services for Public Address and related systems.				
	Technical Person Name	Year Qualification Obtained	Relevant Project/Contract	Proof submitted Yes/No (Reference all proof appropriately)
<b>Criteria 3 Company Resources – Technical Resources.</b> Please state the number of Technical staff National Technical Certificate level 3 or Equivalent each with 3 years of experience in the Public Address System environment.				

Functionality Evidence				
Evaluation Criteria	Enterprize Clients Name	Enterprize Clients Size	Location	Proof submitted Yes/No (Reference all proof appropriately)
<b>Criteria 4 Past Experience and References of Public Address System Clients</b> Please indicate the total number of enterprise clients (with multiple installed Public Address Systems) worked for in the last three years. An Enterprise Client is considered a company with 200 or more employees with at least 3 locations where Public Address systems are installed or maintained.				
	Client Names	Total value of contracts/projects:	Relevant Project/Contract	Proof submitted Yes/No (Reference all proof appropriately)
<b>Criteria 5 Public Address Systems: Contract Value</b> Please indicate the total value of contracts of the projects done in the last three years				

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

\_\_\_\_\_  
 Date

<b>Schedule F.14: Appeal Application</b>
--

annexure 'B'

OFFICIAL RECEIPT  
(Valid only if printed  
by official cash  
receiving 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	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  
receiving 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	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 LOLUNTU    BURGERSENTRUM  
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 Making progress possible. Together.