

## **CONTRACT DATA**

**A contract between  
SENTECH, Sender Technology Park, Radiokop, Octave Road, Honeydew,  
and**

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**Appointment of a Service Provider for the design, supply, install and  
commissioning of the Fire Suppression and Detection System at NASREC  
facility.**

**Bid Number: SENT/004/2025-26**

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## PART C1: AGREEMENTS AND CONTRACT DATA –

### Form of Offer and Acceptance Offer

Sentech, identified in the acceptance signature block, has solicited offers to enter into a contract for the **design, supply, install and commissioning of the Fire Suppression and Detection System at NASREC facility**.

The Bidder, identified in the offer signature block, has examined the documents listed in the Tender Data and addenda thereto as listed in the Bid schedules, and by submitting this offer has accepted the conditions of the Bid.

By the representative of the Bidder, deemed to be duly authorized, signing this part of this form of offer and acceptance, the Bidder offers to perform all of the obligations and liabilities of the Bidder under the Contract including compliance with all its terms and conditions according to their true intent and meaning for an amount to be determined in accordance with the conditions of contract identified in the Contract Data.

### THE OFFERED TOTAL OF THE PRICES INCLUSIVE OF APPLICABLE TAXES; (in the Bids applicable currency).

\_\_\_\_\_ (amount in words);

\_\_\_\_\_ (amount in figures)

***NB: The Prices quoted above is the total Bid offer inclusive of all applicable costs, escalation and taxes for the Contract duration. The price must be carried over from the price breakdown / schedule of rates provided in the Bid document. In the event that there is a conflict between the amount in words and the amount in figures, the amount in words shall govern.***

This offer may be accepted by Sentech by signing the acceptance part of this form of offer and acceptance and returning one copy of this document to the Bidder before the end of the period of validity stated in the Tender Data, whereupon the Bidder becomes the party named as the Bidder in the conditions of contract identified in the Contract Data.

**Bidder's Signature(s)** \_\_\_\_\_

**Signed by the Bidder at** \_\_\_\_\_ **on this the** \_\_\_\_\_ **day of** \_\_\_\_\_ **20** \_\_\_\_\_

**Name(s)** \_\_\_\_\_

**Capacity** \_\_\_\_\_

**Address (Domicillium)**

\_\_\_\_\_  
\_\_\_\_\_

## Acceptance

By signing this part of this form of offer and acceptance, Sentech accepts the Bidder's offer. In consideration thereof, Sentech shall pay the Bidder the amount due in accordance with the conditions of contract identified in the Contract Data. Acceptance of the Bidder's offer by the signature by Sentech shall form an agreement between Sentech and the Bidder upon the terms and conditions contained in this agreement and in the contract that is the subject of this agreement.

The terms of the contract, are contained in:

Part C1 Agreements and contract data, (which includes this agreement)

Part C2 Pricing data

Part C3 Scope of work.

and drawings and documents or parts thereof, which may be incorporated by reference into Parts C1 to C3 above.

Deviations from and amendments to the documents listed in the Tender Data and any addenda thereto as listed in the Bid schedules as well as any changes to the terms of the offer agreed by the Bidder and the employer during this process of offer and acceptance, are contained in the schedule of deviations attached to and forming part of this agreement. No amendments to or deviations from the said documents are valid unless contained in this schedule of deviations.

Failure to fulfil any of these obligations in accordance with those terms shall constitute a repudiation of this agreement.

**Sentech's Signature(s)** \_\_\_\_\_

**Signed by Sentech at** \_\_\_\_\_ **on this the** \_\_\_\_\_ **day of** \_\_\_\_\_ **20** \_\_\_\_\_

**Name(s)** \_\_\_\_\_

**Designation** \_\_\_\_\_

**SENTECH SOC LIMITED,**

Sender Technology Park

Octave Road, Radiokop

Honeydew

Johannesburg

**Date** \_\_\_\_\_

**Upon acceptance by Sentech of the Bidder's offer, a contract will come into existence.**

## SCHEDULE OF DEVIATIONS

**Notes:**

- 1 The extent of deviations from the Bid documents issued by the Sentech before the Bid closing date is limited to those permitted in terms of the conditions of Bid.
- 2 A Bidder'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 arises from the process of offer and acceptance either as a confirmation, clarification or change to the Bid documents and which it is agreed by the Parties becomes an obligation of the contract shall also be recorded here.
- 4 Any change or addition to the Bid documents arising from the above agreements and recorded here shall also be incorporated into the Contract.

1. **Subject** \_\_\_\_\_

**Details** \_\_\_\_\_

2. **Subject** \_\_\_\_\_

**Details** \_\_\_\_\_

3. **Subject** \_\_\_\_\_

**Details** \_\_\_\_\_

4. **Subject** \_\_\_\_\_

**Details** \_\_\_\_\_

By the duly authorised representatives signing this schedule of deviations, Sentech and the Bidder agree to and accept the foregoing schedule of deviations as the only deviations from and amendments to the documents listed in the Tender Data and addenda thereto as listed in the Bid schedules, as well as any confirmation, clarification or changes to the terms of the offer agreed by the Bidder and Sentech 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 Bid documents and the receipt by the Bidder of a completed signed copy of this Agreement shall have any meaning or effect in the contract between the parties arising from this agreement.

## Contract Data

### Part one - Data provided by Sentech given in all contracts

#### 1. The Purchaser is

##### **SENTECH SOC LIMITED,**

Sender Technology Park  
Octave Road  
Radiokop  
Honeydew  
Johannesburg

#### 2. General

The National Treasury General Conditions of Contract for goods and services (NT GCC, 2010) or General Conditions of Contract for Works (2015) as issued by National Treasury and the Construction Industry Development Board of the Republic of South Africa apply, respectively.

The goods are specified in the Scope of Work. The Special Conditions of Contract (SCC) are stipulated in the Tender Data.

#### 3. Goods information:

The Goods Information is in the document called "Scope of Work" and in the documents and drawings referred to by it.

#### 4. Terms of Delivery

The Terms of Delivery are contained in the General Conditions of Contract (GCC) and Special Conditions of Contract.

#### 5. Language

The *language* of this contract is English.

#### 6. Governing Laws and Jurisdiction

The Contract shall be governed by and interpreted according to the laws of the Republic of South Africa.

In the event of a conflict between or inconsistency in the laws applicable in the various provinces of the Republic of South Africa, the law as applied and interpreted in the Gauteng Province shall prevail.

The parties irrevocably submit to the exclusive jurisdiction of the South Gauteng High Court, Johannesburg in respect of any action or proceeding arising from this Bid.

This Bid and all contracts emanating there from will be subject to the General Conditions of Contract issued in accordance with Treasury Regulation 16A published in terms of the Public Finance Management Act, 1999 (Act 1 of 1999). The Special Conditions of Contract are supplementary to that of the General Conditions of Contract. Where, however, the SCC are in conflict with the GCC, the SCC shall prevail.

#### 7. Sub-contracting post award

A Bidder awarded a Bid may only enter into a subcontracting arrangement with the approval of Sentech. The successful bidder may not subcontract more than 25% of the value of the contract to any other enterprise that does not have an equal or higher B-BBEE status level of contributor than the Bidder concerned, unless the contract is subcontracted to an EME that has the capability and ability to execute the subcontract.

#### 8. Transformation Plan

A transformation plan is a record of activities an entity intends to undertake to improve its BBBEE Level through Ownership, Management and Control; Skills Development; Enterprise and Supplier Development and Socio-Economic Development.

Sentech reserves the right to request a BBBEE transformation plan with clearly defined timelines and milestones if the recommended bidder does not meet Sentech's transformation goals. These milestones must be achieved over the term of the contract. This transformation plan shall be submitted within 10 working days from the written request, failing which Sentech reserves the right to withdraw its appointment of the preferred recommended Bidder.

#### **9. Warranty**

The warranty period is 12 months after Delivery.

#### **10. Payment**

The method and conditions of payment are contained in the Tender Data, GCC and SCC.

The interest on late payment is 0 % per complete week of delay.

#### **11. Rate of Exchange, Currency Fluctuations and Currency**

All bid prices quoted shall be in South African Rands (ZAR). If prices are in a foreign currency, the rate of exchange quoted shall remain fixed throughout the term of the agreement. Bidders will bear the risk of and all cost/s associated with currency fluctuations, therefore Bidders shall be required to manage such risk in their bid price.

#### **12. General - Prices**

All prices shall be quoted in ZAR.

Unless written approval has been obtained from Sentech, no adjustment in contract prices will be made. Applications for price adjustment must be accompanied by documentary evidence in support of any adjustment.

#### **13. Price Negotiations**

Sentech reserves the right to negotiate market related prices and discounts. If market-related prices are not agreed to, Sentech reserves the right to terminate the negotiations and invite the next ranked Bidder for negotiations or cancel the Bid.

#### **14. Liabilities indemnities and insurance**

Insurance is required from the Bidder in respect of delivery and transportation where applicable.

#### **15. Disputes**

Should any dispute, disagreement or claim arise between the parties ("the dispute") concerning this Agreement, the parties shall try to resolve the dispute by negotiation. This entails one party inviting the other party to meet and attempt to resolve the dispute within fourteen (14) days from the date of the written invitation.

If the dispute has not been resolved by such negotiation as referred to in this clause above, the Parties shall submit the dispute to the Arbitration Foundation of Southern Africa ("AFSA") for administered mediation, upon the terms set out by the AFSA secretariat.

Failing such resolution, the dispute shall be resolved by arbitration in accordance with the rules and procedures of AFSA by an arbitrator appointed by AFSA. Where the arbitration route is followed, the dispute must be adjudicated within Johannesburg in the English language and finally resolved in accordance with the rules of AFSA, by an arbitrator or arbitrators appointed by that Foundation.

The provisions of this clause shall not preclude any party from obtaining relief from a Court of competent jurisdiction. To this extent, the Parties hereby consent to the jurisdiction of the South Gauteng High Court, Johannesburg, South Africa. The provisions of this clause shall continue to be binding on the Parties, notwithstanding any termination or cancellation of this Agreement.

#### **16. Termination**

Sentech shall have the right, at its sole and exclusive discretion, upon written notice to the Bidder, to terminate this Agreement, in whole or in part should the Bidder fail to perform any of its obligations or deliver any

deliverable timeously or should Sentech not be satisfied with the quality of any service/s in terms of this Agreement, to the satisfaction of Sentech.

Sentech shall furthermore have the right, as a result of such termination, to appoint a third party to perform the obligations of the Bidder in terms of the Agreement and the Bidder indemnifies Sentech against all costs incurred by Sentech in appointing such third party to fulfil the obligations of the Bidder.

Sentech shall have the right, at its sole and exclusive discretion, to terminate this Agreement, at any time, upon 30 (thirty) days' written notice to the Bidder.

#### **17. Contract Term**

This Agreement will run for a period of six (6) months.

This Agreement may be extended by agreement between Sentech and the successful Bidder prior to the expiration of the Agreement should this be required.

#### **18. Supplier Due Diligence**

Sentech reserves the right to conduct supplier due diligence at any time pre, during and post the contract period. This may include announced or unannounced site visits.

#### **19. Cession**

Sentech shall be entitled to cede, delegate, assign, charge, transfer or otherwise dispose of this Agreement or any rights or obligations therein in whole or in part, upon prior written notice to the Bidder.

#### **20. Monitoring and Evaluation**

The service delivery and performance of the Bidder will be monitored and evaluated by Sentech at all relevant times. In the event that the Bidder defaults in any manner or form, Sentech reserves the right to blacklist the Bidder on the National Treasury Database of Prohibited Suppliers and Tender Defaulters, and to take such further steps as may be warranted in the circumstances which steps shall be determined at Sentech's sole and exclusive discretion.

#### **21. Protection of Personal Information Act No. 4 of 2013 ("POPI")**

Sentech is POPI compliant and the Bidder will ensure that it conducts itself within the prescripts of the prescribed legislation.

Should Sentech need to collect Personal Information by law or in consideration of the Tender, and the Bidder fail to provide the Personal Information when requested, Sentech may refuse to accept the relevant services from the Bidder, and the Bidder will be notified in this event.

By agreeing to the terms of this Agreement, the Bidder voluntarily authorizes Sentech to process its' personal information (including its' name, credit card & banking details, physical address, telephone numbers, reference letters & any other information it has provided to Sentech) for purposes of Tendering and contracting.

The Bidder consents to the transfer of such personal information to third parties.

This consent is effective immediately and will endure until the relationship between the Bidder and Sentech has been terminated.

The Bidder indemnifies and holds Sentech harmless against any loss, whether direct or indirect, arising out of the failure to process any of its' personal data in accordance with applicable laws.

#### **22. Delay damages**

As stipulated in the Special Conditions of Contract.

#### **Sentech's Representative is**

Name: Mr. Zunaid Adams

Address: **SENTECH SOC LIMITED**

Sender Technology Park  
Octave Road  
Radiokop  
Honeydew  
2040  
Johannesburg

Tel No. 011 471 4400

Sentech's Representative is the Executive: Legal and Regulatory.

## **Contract Data**

### **Part two - Data provided by the Bidder**

#### **Statements given in all contracts**

**The Bidder is:**

Name \_\_\_\_\_ Address \_\_\_\_\_

\_\_\_\_\_

a company / close corporation / partnership duly incorporated in accordance with the laws of the Republic of South Africa.



## PART C2: PRICING DATA

### Price List

#### Solution Prices

The Tender shall be evaluated on the total cost, including the installation cost and the maintenance fees payable for the first year.

The Bill of Quantity was prepared based on the Unit Sum. The Bidder must submit together with this BOQ, a breakdown of materials, indicating the description, rate and quantities of each item according to their pricing. The bill of materials must be based on the proposed design. **NB**: The Bidder shall submit the concept designs together with the BOQ.

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
<b>1</b>	<b>PRELIMINARY &amp; GENERAL</b>				
1.1	Site Establishment and clearance	Sum	1	R	R
1.2	12 months guarantee and maintenance	Sum	1	R	R
1.3	Equipment labels and notices	Sum	1	R	R
1.4	Training of operations and maintenance personnel	Sum	1	R	R
1.5	Occupational Health and Safety Compliance (Safety file to be approved before works commence on site).	Sum	1	R	R
1.6	Performance Guarantee covering the bidder's tendered price for the proposed project duration	Sum	1	R	R
1.7	Implementation and project management for the entire scope	Sum	1	R	R
1.8	Issuing of Hand-over Data File in soft and hard copy. (Refer to item 3.4 below)	Sum	1	R	R
<b>Sub-total for Bill No. 1 (Carried forward to summary)</b>					<b>R</b>

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
<b>2</b>	<b><u>DESIGNS AND INSTALLATION</u></b>				
<b>2.1</b>	<b>Design</b> Design of the complete Fire Suppression and Detection System Make reference to the Scope of Work (item 3 – 6) Designs to be done and signed off by the Professional Engineer registered with ECSA				
2.1.1	Fire suppression and detection system <b>design, documentation and certification</b> as per item 3 to 6 (Contract data)	Sum	1	R	R

2.1.2	Allow for the Designs approval by Third Party (e.g. Local Fire Chief) prior to construction implementation	Sum	1	R	R
2.1.3	Preparation and submission of fire risk assessment report	Sum	1	R	R
<b>2.2</b>	<b>Installation</b> Supply, delivery and installation of the fire suppression and detection system as per the Designs If the quantity is zero, provide the rate only Installation to be done by a certified Fire Technician accredited by SAQCC				
2.2.1	<u>Fire Detection System</u>				
2.2.1.1	Supply and deliver Addressable Fire Detection and Alarm Control Panel complete with all necessary accessories	No		R	R
2.2.1.2	Install Addressable Fire Detection and Alarm Control Panel complete with all necessary accessories	No		R	R
2.2.1.3	Supply and deliver Addressable optical smoke detectors	No		R	R
2.2.1.4	Install Addressable optical smoke detectors	No		R	R
2.2.1.5	Supply and deliver Analogue thermal heat detectors	No		R	R
2.2.1.6	Install Analogue thermal heat detectors	No		R	R
2.2.1.7	Supply and deliver Addressable strobe sounders	No		R	R
2.2.1.8	Install Addressable strobe sounders	No		R	R
2.2.1.9	Supply and deliver Surface mounting red pluggable base for sounders	No		R	R
2.2.1.10	Install Surface mounting red pluggable base for sounders	No		R	R
2.2.1.11	Supply and deliver Addressable Manual Call Point	No		R	R
2.2.1.12	Install Addressable Manual Call Point	No		R	R
2.2.1.13	Supply and deliver Surface mounting box for Manual Call Point	No		R	R
2.2.1.14	Install Surface mounting box for Manual Call Point	No		R	R
2.2.1.15	Supply and deliver Wiring, conduits and cables	m		R	R
2.2.1.16	Install Wiring, conduits and cable	m		R	R
2.2.1.17	Supply and deliver complete power supply	No		R	R
2.2.1.18	Install complete power supply	No		R	R
2.2.1.19	Allow for the decommissioning of the existing fire detection system	Sum		R	R

2.2.2	<u>Fire Suppression System</u>				
2.2.2.1	Supply and deliver Novec 1230 clean agent	kg		R	R
2.2.2.2	Install Novec 1230 clean agent	kg		R	R
2.2.2.3	Supply and deliver Storage container for Novec 1230 clean agent	No		R	R
2.2.2.4	Install Storage container for Novec 1230 clean agent	No		R	R
2.2.2.5	Supply and deliver Addressable Control panel for fire suppression system complete with all necessary accessories	No		R	R
2.2.2.6	Install Addressable Control panel for fire suppression system complete with all necessary accessories	No		R	R
2.2.2.7	Supply and deliver carbon steel Pipework and fittings	m		R	R
2.2.2.8	Install carbon steel Pipework and fittings	m		R	R
2.2.2.9	Supply and deliver Nozzles for discharge	No		R	R
2.2.2.10	Install Nozzles for discharge	No		R	R
2.2.2.11	Supply and deliver Manual release stations	No		R	R
2.2.2.12	Install Manual release stations	No		R	R
2.2.2.13	Supply and deliver Alarm and warning systems	No		R	R
2.2.2.14	Install Alarm and warning systems	No		R	R
2.2.2.15	Allow for the supply and delivery of all Electrical works	Sum		R	R
2.2.2.16	Allow for the installation of all Electrical works	Sum		R	R
2.2.3	Allow for the As-built drawings approval by the Third Party (e.g. Local Fire Chief)	Sum	1	R	R
2.2.4	Allow for the Room Integrity Tests	Prov. Sum	1	<b>R10 000.00</b>	<b>R10 000.00</b>
2.2.5	Allow for sealing of all Equipment Rooms including cable entries, HVAC pipework and all other openings with Fire Sealant	Sum	1	R	R
2.2.6	Allow for the linking of HVAC Systems to the Fire Panel	Sum	1	R	R
2.2.7	Allow for the linking of Fire Control Panel to the Building Management System (BMS)	Sum	1	R	R
2.2.8	Supply and deliver Class D Fire Door with 2 hours fire rating, double door swing type for new data centre room	No	1	R	R

2.2.9	Install Class D Fire Door with 2 hours fire rating, double door swing type	No	1	R	R
2.2.10	Supply and deliver 10kg Carbon Dioxide (CO <sub>2</sub> ) fire extinguishers complete with backing boards and fire signages	No	8	R	R
2.2.11	Install 10kg Carbon Dioxide (CO <sub>2</sub> ) fire extinguishers complete with backing boards and fire signages	No	8	R	R
<b>2.3</b>	<b>Commissioning</b>				
2.3.1	Testing and commissioning of the complete works	Sum	1	R	R
<b>Sub-total for Bill No. 2 (Carried forward to summary)</b>					<b>R</b>

SUMMARY		
BILL NO	DESCRIPTION	AMOUNT
1	BILL 1 - PRELIMINARY & GENERAL SUB-TOTAL	R
2	BILL 2 - DESIGN AND INSTALLATION SUB-TOTAL	R
	SUB-TOTAL	R
	ADD CONTINGENCY AT 10% OF THE SUB-TOTAL AMOUNT	R
	TOTAL EXCLUDING VAT	R
	ADD VAT 15%	R
	<b>TOTAL CARRIED TO FORM OF TENDER</b>	<b>R</b>

**\*Errors identified in the schedule of rates will be corrected in accordance with Sentech's policies.**

## PART C3: SCOPE OF WORK

### SENTECH'S GOODS INFORMATION

XXXXX

#### 1. TECHNICAL REQUIREMENTS

##### 1.1. Glossary of Terms

Abbreviations	Descriptions
COC	Certificate of Compliance
SAQCC	South African Qualification & Certification Committee
O&M manuals	Operation & Maintenance Manuals
HVAC	Heating, Ventilation and Air-Conditioning
MCP	Manual Call Point
SANS	South African National Standards
FDIA	Fire Detection Installers Association
FSIB	Fire System Inspection Bureau
ISO	International Organisation for Standardisation
OEM	Original Equipment Manufacturer
ICT	Information and Communication Technology
CAD	Computer-Aided Design
NFPA	National Fire Protection Association
LCD	Liquid Crystal Display
LED	Light Emitting Diode
CPU	Central Processing Unit
FACP	Fire Alarm Control Panel

#### 2. INTRODUCTION

Sentech is a state-owned company and the largest broadcasting signal distributor in Africa. It is also a licensed Electronic Communications Network Service provider in South Africa and currently operates several communication networks from which Internet access is provided for customers and internal use.

The purpose of this project is to ensure that the facility at Nasrec complies with the relevant city by laws, NFPA, ISO as well as SANS standards and codes.

The fire suppression and detection system in the data centre is a top priority as in the event of a catastrophic room fire, a facility may lose equipment, valuable facility data and possibly even human life. Fire detection and suppression system reduce these risks.

The specification covers the requirements for the fire suppression and detection system including the existing fire protection systems.

#### 3. SCOPE OF WORK

The scope of work will cover the design, supply, install and commissioning of the gas fire suppression system and fire detection system.

**NB:** The Contractor must ensure that, at the completion of the project, the system is configured, fully operational and compliant.

### 3.1 Design and Installation

The Contractor shall be responsible for the following:

- Fire Detection System (Entire Building) Design
- Fire Suppression System (Equipment Rooms) Design
- Fire Detection System (Entire Building) Installation
- Gas Suppression System (Equipment Rooms) Installation
- Fire Signages
- Fire extinguishers

The design and installation must consist of the following minimum requirements listed below but not limited to:

- i) Fire Suppression System
  - Novec 1230 gas cylinders
  - Discharge nozzles
  - Smoke detectors
  - Piping
  - Gas control panel complete with standby batteries
  - Gas siren
  - Door monitor
  - Door closure
  - Warning bell
  - Warning signage
  - Gas signage
- ii) Fire Detection System
  - Analogue Addressable Fire Detection and Alarm Control Panel
  - Addressable Smoke Detectors
  - Addressable Heat Detectors
  - Addressable Manual Call Points
  - Addressable Strobe Sounders
  - Surface Mounting Box for MCP
  - Surface Mounting Red Pluggable Base for Sounder
  - Surface Mounting Sensor Base
  - Sensor Isolator Base
  - Remote Display Interface Card
  - Network Card
  - Spare Processor Board

The system shall include early type detection system to detect very low concentrations of smoke which can prevent a fire from even starting.

- iii) Fire Alarm System
  - Analogue Addressable Fire Detection and Alarm Control Panel
  - Network Card
  - Remote Display Interface Card
  - Relay Board

iv) Other

- Fire Doors
- Room Integrity Tests
- Seal Equipment Rooms with Fire Sealant
- Seal all Cable Entries and HVAC Pipework with Fire Sealant
- Seal All Other Openings with Fire Sealant
- Link HVAC System to the Fire Panel
- Link Fire Panel to the BMS System

### 3.2 Building Footprint

The following Building Rooms will form part of the scope of works: [ √ = Required; X = Not required]

Item No	Room Name	Area (m <sup>2</sup> )	Height (m)	Gas Suppression System	Fire Detection System
1	Reception	53.8	5.6	X (N/A)	√
2	Office 2	11.6	3.0	X (N/A)	√
3	Office 1	11.5	3.0	X (N/A)	√
4	Facility Control Office	14.9	3.0	X (N/A)	√
5	Staff Common Room	30.5	3.0	X (N/A)	√
6	Security Office	16.5	3.0	X (N/A)	√
7	Kitchen	3.4	2.7	X (N/A)	√
8	Female Toilet	6.5	2.7	X (N/A)	X (N/A)
9	Male Toilet	9.6	2.7	X (N/A)	X (N/A)
10	Disabled Toilet	3.9	2.7	X (N/A)	X (N/A)
11	Com. Room	24.7	3.0	X	√
12	Network Manager	24.3	4.2	X	√
13	Passage	29.5	4.2	X	√
14	Proposed Data Centre Room	93.9	3.5	√	√
15	Telkom Room	20.2	3.6	X (Existing)	√
16	Network Equipment Room	61.9	4.3	X (Existing)	√
17	Termination Room Satellite	9.7	3.7	X (Existing)	√
18	Termination Room Fibre	9.7	3.6	X (Existing)	√
19	HPA Room	28.6	4.2	X (Existing)	√
20	Satellite Equipment Room	43.3	4.2	X (Existing)	√
21	UPS Room 1	32.7	4.2	X (Existing)	√
22	UPS Room 2	31.3	4.2	√	√
23	STG Room 1	30.7	4.4	√	√
24	STG Room 2	30.7	4.4	√	√
25	Diesel Tank Room	30.2	3.6	√	√
<b>Building Total Square Meter</b>		<b>624.7</b>			

### **3.3 Pre-Installation Documents**

- Fire suppression and Detection Design
- Works program/ timelines
- Workshop drawings
- Technical data sheets
- Electrical diagrams

### **3.4 Post Installation Documents**

- Certificate of Compliance
- As-built drawings in pdf and CAD format
- Operation and maintenance manuals
- Maintenance plan (for the life span of the system)
- Provide training to relevant Technical and ICT Staff
- Hand-over data file with all necessary and relevant documentation. The data file shall contain but not limited to the following documents (Index):
  - Project plan
  - Site access documents
  - Workshop drawings
  - As-built drawings
  - Technical data sheets
  - Operation and maintenance manuals
  - Commissioning documents
  - Training manuals and register
  - Maintenance plan
  - Certificate of Compliance (Electrical and Fire)
  - Warranties and guarantees
  - Equipment register/ schedule
  - List of spares
  - Completion Certificates

## **4. STANDARDS AND SPECIFICATIONS**

The Contractor must conduct the work accordingly and comply with the following requirements:

- Registered with FDIA/ SAQCC/ FSIB or similar recognised institutions,
- SANS 10400: Part T: 2024: Fire protection,
- SANS 10139: Fire detection and alarm system.
- SANS 7240: Part 19: Design, installation, commissioning and service of sound systems for emergency purposes,
- SANS 7240: Part 16: Sound system control and indicating equipment,
- SANS 14520: Part 1: Design, installation, commissioning and service of gaseous fire extinguishing systems.
- SANS 247: Fire protection equipment,
- SANS 10400: Part S: 2011 Edition 3: Facilities for persons with disabilities,
- SANS 10400: Part W: 2011 Edition 3: Fire installations,
- SANS 10140: 2003 Edition 3: Identification Colour Markings: Contents of pipelines,
- SANS 1253: 2016 Edition 3.1: Fire-doors and fire-shutters,



- SANS 1186-1 :2015 Edition 3.7: Symbolic safety signs: Standard signs and general requirements,
- SANS 10131: Installation of fire protection systems,
- SANS 543: 2015 Edition 5.0: Fire hose reels,
- SANS 10105-1: 2010 Edition 3.01: The use and control of fire-fighting equipment Part 1: Portable and wheeled (mobile) fire extinguishers,
- SANS 1475-1: 2010 Edition 3.04: The production of reconditioned fire-fighting equipment Part 1: Portable and wheeled (mobile) rechargeable fire extinguishers,
- SANS 1128-1: 2010 Edition 2.01: Firefighting equipment Part 1: Components of underground and above-ground hydrant systems,
- SANS 10105-1: 2010 Edition 2.01: The use and control of fire-fighting equipment Part 1: Portable and wheeled (mobile) fire extinguishers,
- SANS 1475 -1: 2010 Edition 3.04: The production of reconditioned fire-fighting equipment Part 1: Portable and wheeled (mobile) rechargeable fire extinguishers,
- with SANS 10105-1: 2010 Edition 3.01: The use and control of fire-fighting equipment Part 1: Portable and wheeled (mobile) fire extinguishers,
- SANS 1910: 2009 Edition 1.02: Portable refillable fire extinguishers,
- SANS 1567: 2014 Edition 2.02: Portable rechargeable fire extinguishers - CO2 type extinguishers,
- SANS 193: 2013 Edition 2.02: Fire dampers,
- ISO 9001: Quality Management System,
- NFPA 2001: Standard on Clean Agent Fire Extinguishing Systems.
- SANS 10142: 2008: Code of Practice for the Wiring of Premises
- The Occupational Health and Safety Act No. 85 of 1993 (OHS Act) as amended in 2008 and all amendments thereafter.

## **5. FIRE DETECTION SYSTEM**

### **5.1 Objective**

The specification covers the general technical requirements for analogue addressable fire detection and alarm system.

The scope of work includes the design, supply, install and commissioning of compliant addressable fire detection system including the decommissioning of the existing fire detection system. The system shall be designed and installed in accordance with SANS 10400, SANS 10139, SANS 322, and any other relevant Standards and Codes.

The system shall be installed in the entire building and in the rooms as detailed in item 3.2 above.

### **5.2 Technical Requirements**

The system shall include early type detection system to detect very low concentrations of smoke which can prevent a fire from even starting.

The fire detection and alarm system shall contain intelligent loop controller cards compatible with intelligent detectors and shall support relevant class of wiring for the use of short circuit isolators.

The FACP shall have microprocessor-based CPU for communication and control of intelligent addressable smoke and heat detectors, addressable modules, panel modules including initiating circuits, control circuits,

notification appliance circuits, local and remote operator terminals, annunciators and other system controlled devices.

The logic circuitry shall be based on high noise immunity solid state hardware.

All addressable units shall be connected to the fire and alarm control panel through the loop cards and shall be addressed through individual addresses. The panel shall be able to analyse all inputs from all addressable units and through its own software and ambient level screening, shall be able to identify fire, possible fire and fault conditions.

The system software shall be user friendly, secure and upgradable.

The system shall be fail safe and adequate safe guards shall be under taken that it shall not bring down the complete system, in the event of a failure of a part of the system.

The panel shall be capable of repeating all the events and messages to an active repeater panel if required in the future.

The short or open circuit units shall be reported at the panel. The system shall be able to isolate the segment between the two fault isolators. The missing detectors/ devices shall also be reported at the fire panel with identification of the location.

The fire panel shall be able to discriminate between false alarms and fire conditions, as well as priority selection of alarm in case alarm activates simultaneously in two or more remotely located units. In this case, the MCPs shall have the highest priority.

The fire panel shall have a battery backup of a minimum of 24hours in a normal run and then half an hour in an alarm condition. The battery shall be of sealed lead acid re-chargeable, maintenance free type.

The fire panel shall include a full featured operator interface control for the programming and control of the fire alarm system. All programming and editing of the existing program in the system, shall be achieved without special equipment and without interrupting the alarm monitoring functions of the fire alarm control panel.

The backlit Large LCD display shall be large enough to display system messages, information associated with the fire alarm condition, including the type of alarm point and its location within the protected facility. It shall also provide programming menus along with buttons.

The LED indicator shall provide LEDs that indicate the status of the system parameters (at minimum: power status, test status, fire alarm, fault, CPU failure, points disabled, etc.)

The system reset switch shall cause all electronically latched initiating devices to return to their normal condition.

The signal silence function shall cause all programmed alarm notification devices to return to normal conditions. The selection of notification circuits that are silence able by this switch shall be fully field programmable within the confines of all applicable standards.

The drill switch shall activate all programmed notification device circuits. The drill function shall latch until the panel is silenced or reset.

i) Control Panel

Type: Addressable fire alarm control panel

Capacity: Support a minimum of 100 addressable devices

Features: LCD display for system status and event logs; Built in event logging and reporting capabilities; Network connectivity for remote monitoring and control

ii) Addressable Smoke Detectors

Type: Optical smoke detectors

Detection Principle: Photo electric light scatter

Sensitivity: 2.3% OBS/ m (Obscuration/ meter)

Mounting: Pluggable into surface

Indication: Alarm LED (red)

Application: Indoor installation

Colour: White

iii) Addressable Heat Detectors

Type: Analogue thermal detectors

Sensitivity: Level 1 - 580°C fixed temperature; Level 2 - 580°C rate compensated; Level 3 - 750°C rate of rise; Level 4 - 750°C fixed temperature

Mounting: Pluggable into surface

Indication: Alarm LED (red)

Application: Indoor installation

Colour: White

iv) Addressable Strobe Sounder

Type: Addressable strobe sounder

Compatibility: Analogue addressable systems

Mounting: Surface with plug-in base

Application: Indoor installation

Colour: Red

v) Addressable Manual Call Point

Type: Addressable MCP

Compatibility: Analogue addressable systems

Mounting: Back box for surface mount

Indication: Alarm LED (red)

Application: Indoor installation

Colour: Red

vi) Network Card

Type: Network card

Compatibility: Analogue addressable panels

Mounting: Screwed type mounting

vii) Relay Board

Type: Relay board

Compatibility: Analogue addressable panels

Indication: In operation LED per relay output

Mounting: Screwed type mounting

viii) Sensor Isolator Base

Type: Sensor isolator base

Compatibility: Analogue addressable system

Addressing method: Addressed by panel software

Indication: LED (amber)

Application: Indoor installation

Colour: White

ix) Design Considerations

Conduct risk assessment to determine the required coverage based on occupancy and building layout.

The fire detection system must be capable of integration with other safety systems such as fire suppression systems and emergency lighting systems

Divide the protected area into zones for effective monitoring and response

Each zone must have its own addressable loop connected to the control panel

All installation must comply with SANS and other relevant codes

Designs must be carried out by certified professionals experienced with fire system

Installation must be carried out by certified Fire Technician experienced with Novec 1230 system

x) Testing

Functional testing of control panels, detectors, MCPs and notification devices

Ensure that the control panel displays accurate information regarding device status

xi) Safety Considerations

Train personnel on the operation of the system and emergency evacuation protocol

Display clear signage indicating the presence of a fire detection system

## **6. FIRE SUPPRESSION SYSTEM**

### **6.1 Objective**

The specification covers the general technical requirements for the gas fire suppression system.

The scope of work includes the design, supply, install and commissioning of compliant gas fire suppression system. The system shall use Novec 1230 gas. The system shall be designed and installed in accordance with SANS 14520, SANS 247, SANS 10139, SANS 10131, and any other relevant Standards and Codes.

The Novec 1230 gas fire suppression system uses a clean agent that extinguishes fire by absorbing heat and interrupting the combustion process, leaving no residue and posing minimal risk to sensitive equipment.

The system shall be installed in the building rooms as detailed in item 3.2 above.

### **6.2 Technical Requirements**

i) Clean Agent

Type: Novec 1230 (FK-5-1-12)

Global Warming Potential (GWP): 1

Ozone Depletion Potential (ODP): 0

Concentration Levels: Minimum concentration of 5.0% for effective suppression

ii) Storage Container

Material: Carbon steel

Pressure rating: Minimum working pressure of 25bar

Size: Configured based on protected area volume and discharge time

iii) Control System

Control panel: Addressable with visual and audible alarms

Detection system: Smoke detectors integrated with the suppression system

Activation: Manual pull stations and automatic activation based on detection

iv) Distribution Network

Piping: Carbon steel piping for high pressure systems

Nozzles: Designed for specific spacing and coverage according to the area layout

Isolation valves: Manual and automatic valves to control the flow of the agent

v) Agent Concentration Level

Discharge concentration: minimum 5% concentration for effective fire suppression

Discharge duration: To achieve full discharge within 10 seconds for a total flooding system

vi) Design Considerations

Clearly define the area to be protected, including dimensions and configurations

Ensure that the system is designed for total flooding or local application, as necessary

All installation must comply with SANS and other relevant local codes and standards

Designs must be carried out by certified professionals experienced with fire system

Installation must be carried out by certified Fire Technician experienced with Novec 1230 system

vii) Testing

Functional testing of control panels, detectors and activation systems

Hydrostatic testing of piping and system components

viii) Safety Considerations

Train personnel on the operation of the system and emergency evacuation protocol

Ensure safety signage is displayed in the protected area, indicating the presence of a gas suppression system

## 7. BUILDERS WORK

- It shall be the responsibility of the Contractor to provide the required builder works such as openings in walls, roofs etc.
- It shall be the contractor's responsibility to provide sleeves, one sleeve for power cabling and the other for control or electronic cabling. etc. where required.
- All fixing brackets and supports shall remain the responsibility of the contractor to ensure it is appropriate for intended purposes.
- Fixing brackets shall be appropriate for the size and weight of the equipment and shall be installed level; all brackets shall be of similar construction and shall be neat, tidy and weather-proof.

## 8. COORDINATION OF SERVICES

Although coordination of services is the responsibility of the principal agent, it is the responsibility of the contractor to inform the engineer of potential clashes that may occur on site.

## 9. MATERIALS AND WORKMANSHIP

- All work is to be executed with new materials of the best quality and in the most substantial manner under the inspection and to the entire satisfaction of the Client.
- The entire installation shall be in accordance with all relevant standards and codes as detailed under item 4 above.
- All apparatus, components parts, fittings and materials supplied and/or installed whether especially specified herein or not shall conform in respect of quality, manufacture, tests and performance with the requirements of the appropriate current South African (SABS) or SANS (South African National Standards) or British Standard Specifications (BS) and Addenda thereto, except where otherwise required by this specification or permitted by approval of the Client in writing.
- All materials and workmanship which may, in the opinion of the Client, be inferior to that specified for the work will be condemned. All condemned material and workmanship must be replaced or

rectified, to the satisfaction of the Client.

- No second hand or used equipment or material of any description may be offered for supply or installation on any of the Client's contracts.
- The Contractor shall, upon request by the Client, or where specifically called for in the detail specification, submit such samples of material and equipment as called for, all in good time and before installation thereof. The Client may retain such samples until the completion of the contract.
- All work shall be executed in a first-class manner by qualified tradesman.
- All components and their respective adjustment, which do not form part of the equipment installation work but influence the optimum and safe operation of the equipment shall be considered to form part of and shall be included in the Contractor's scope of works.
- Any fitting or item of equipment not specifically mentioned but obviously necessary for the successful completion and operation of the installation is to be included to form a complete and working installation.

## **10. TECHNICAL DATASHEET SUBMISSIONS**

The following technical datasheet submission shall be required, should the tenderer be successful and shall be subject to approval, prior to the ordering thereof:

- Smoke Detectors
- Heat Detectors
- Alarm Units
- Break Glass Units
- All Signage
- Addressable Control Panel
- Control Software
- Gas suppression components

## **11. DRAWINGS**

### **11.1. CONTRACTOR'S DRAWINGS**

Where called for in the detail specification these drawings are to be prepared by the Contractor at his expense in accordance with this document and shall be on a scale of not less than 1:50.

Drawings shall be prepared in any CAD software and shall be made available in soft and hard copies. The soft copy shall be both in pdf and CAD format.

Prior to construction and ordering, the drawings and design calculations for the components shall be submitted to the Client for approval. The grade of material for all components shall be specified on the drawing.

### **THESE DRAWINGS SHALL COMPRISED OF:**

#### **A. Builder's Work Drawings**

These shall indicate all work to be done by others (bases, foundations, holes in concrete and masonry, etc.) as well as the sizes, capacities and positions of service connections (electrical, water, drainage, etc.) to be provided by others, all in accordance with the supplementary specification.

## **B. General Arrangement Drawings**

These shall indicate all equipment, distribution systems, testing and inspection requirements as well as instrumentation positions and access requirements.

During their preparation, the Contractor shall take cognizance of all relevant architectural, structural, electrical and other services drawings in order to properly co-ordinate his layout. These drawings can be obtained via the Client. The drawings shall be amended as required during the contract period, and up to date hard copies kept on site for reference purposes.

## **C. Shop Drawings**

These shall be based on the General Arrangement drawings and shall show in detail the construction of all the parts of the works, method of assembly where applicable, erection and construction, materials and connections, welds, gaskets, sealants, fastenings, reinforcing and all other necessary detail.

## **D. As-Built Drawings**

These are up-to-date approved drawings at the completion of the contract. Tenderers shall allow in their price for submitting to the Engineer a USB containing each of the up-to-date general arrangement drawings, shop drawings, as well as electrical and control drawings together with the O&M manuals specified herein.

## **12. SUBMISSION OF CONTRACTOR'S DRAWINGS:**

Drawings shall be submitted to the Client in orderly fashion commencing within the following time limits or as determined by the main contract programme (where applicable):

Builder's work drawings	within 2 weeks of tender acceptance.
General layout drawings	within 3 weeks of tender acceptance.
Shop drawings	within 3 weeks of tender acceptance.
Electrical drawings	within 3 weeks of tender acceptance.
As-built drawings	at completion before first-hand over.

By submitting drawings, the Contractor represents that he has determined and verified all site measurements, site instruction criteria, materials, catalogue numbers and similar data, or will do so, and that he has checked and coordinated each of his drawings with the requirements of the works and the contract documents, taking into account drawings of all other relevant disciplines.

At the time of submission, the Contractor shall inform the Client in writing of any deviation in the Contractor's drawings from the requirements of the contract documents.

The Client will review and approve drawings with reasonable promptness (so as not to cause a delay) only for conformance with the design concept and the contract requirements.

The contractor shall allow a minimum of 7 working days for the Client to review and approve drawings in the construction program.

The Client may, at his discretion and depending on the number of discrepancies, require amendment and resubmission prior to approval. Drawings shall be resubmitted until approved prior to any portion of the works related to the drawings being commenced.



Should the Contractor during drawing amendment, alter any portion of his drawings not specifically required by the Client; he shall point this out in writing when resubmitting the drawing.

Approval of the Contractor's drawings in no way indemnifies him from being responsible for the correctness of the drawings and satisfactory operation of the installation.

### **13. SITE CONDITIONS**

It is the responsibility of the Tenderer to visit the site during the tender phase and to familiarize himself with conditions related to it. If the location of the site is not indicated in the detail specification, it can be obtained from the Client. No claim for additional payment related to ignorance of site conditions will be accepted. By submitting a tender, it is accepted that the Tenderer is fully aware of all site conditions as well as the access to it and has allowed for this in his tender price.

### **14. DEVIATIONS FROM TENDER DOCUMENTS**

No deviations or alterations from that of the detail and standard specification, schedules or drawings shall be made without first obtaining the written approval of the Client.

### **15. MANUFACTURER'S RATINGS**

All equipment for fire detection and gas suppression system, shall be selected to be in acceptance by the Fire Chief. Equipment offered for use beyond these limits will not be considered.

Tenderers must submit manufacturer's ratings of all equipment offered. Ratings shall be given in the SI system.

### **16. NOTICES AND SIGNS**

The Contractor shall supply and install all notices and warning signs that are required by the appropriate laws or regulations and by these documents.

All instructions and signs provided together with instruction manuals shall be in English.

### **17. COMMISSIONING AND TESTING STEPS**

#### **17.1. Commissioning Engineers**

The Tenderer shall allow in his tender price for the services of approved and expert Commissioning Engineers, as may be appropriate for the individual specialized sections of his contract, as well as a competent Engineer in overall control of the installation. Testing and commissioning shall be carried out by these Engineers.

Should undue problems be encountered at any time, the Contractor may be requested by the Engineer to obtain the services of a representative of the manufacturer of specified items of equipment, at no cost to the Client.

#### **17.2. Notice of Testing and Commissioning**

The Client shall receive not less than 7 days advance notice of any tests to be witnessed by the Client.



### **17.3. Quality Testing of Equipment**

The Client reserves the right to arrange for testing of any piece of equipment at will, to check on compliance with the relevant specifications. The client should be informed if there is a need to attend the testing, otherwise all test papers should be presented upon delivery of an equipment.

The client has the right to request for testing of equipment should there be any major dents on the delivery of an equipment. However, should the equipment fail the test, the cost of the test, rectification of the shortcomings, re-testing and repetition of the same test on the remaining like items will be for the Contractor's account.

### **17.4. Inspection during Manufacture**

The Contractor will advise the Client when the items to be supplied are in the course of manufacture. The Client reserves the right to inspect any items during the course of manufacture and witness any performance tests that may be required thereon. The Contractor shall give the Client at least 7 (seven) days advance notice of works tests.

### **17.5. Testing**

The Contractor shall be responsible for carrying out all tests laid down in the specific sections elsewhere in this document, in addition to that listed hereafter and in the detail specification.

Testing and balancing shall not begin until the system has been completed and is in full working order.

The plant shall be tested and operated to meet the performance figures and duties specified.

All safety features and interlocks will be tested.

The Contractor will be responsible for all costs incurred in the testing, including the supply, calibration and use of all instruments and tools, but not the supply of water or power on site.

All instruments and test equipment used shall be provided by the Contractor and shall be accurately calibrated and maintained in good working order. All test instruments used for tests to be witnessed by the Client shall be provided with calibration certificates, if called for by the Client.

Specific attention is drawn to the fact that calibration certificates will be required for the following and all meters shall be in SI units:

Watt meters, ammeters, voltmeters, frequency meters, pressure gauges, flow meters, orifices plates, temperature gauges and dynamometers.

All instruments shall be of above standard grade, and test pressure gauges shall not be less than 150mm in diameter. The maximum scale of the instrument shall not exceed 1.5 times the full test requirement.

It is essential that the Contractor inspects and tests all equipment before requesting the Client to inspect or witness acceptance tests thereon.

All acceptance-tests, whether in the manufacturer's workshop or on site, must be carried out in the presence of the Client.

Should the Client wish to verify the calibration of any instruments, the Contractor shall make the necessary arrangements for the instrument to be re-calibrated by a recognized authority. Should the instrument prove to be correctly calibrated, the cost of the re-calibration test will be borne by the Client. Should the instrument prove to be in error, the cost of the tests will be borne by the Contractor.

Two copies of the complete test reports shall be submitted to the Client, prior to the first delivery of the project. Reports shall cover all tests carried out on individual sections, including such works tests as may have been conducted. All reports shall be neatly typed.

## **18. COMMISSIONING**

The Contractor shall carry out all tests and commissioning of the systems installed by him, in a coordinated and properly organized manner.

The testing procedures shall be sufficiently comprehensive to prove the correct functioning of each and every piece of equipment, and its suitability for the application.

After all systems and equipment have been tested and commissioned to the satisfaction of the Client, a detailed demonstration of all functions of the system shall be carried out in the presence of the Client Representative, so as to allow him to become fully acquainted with the operation of the system.

The Contractor shall allow for the replacement and cost of any materials and fuel used for testing purposes, as part of the contract.

The demonstration to the users shall include a repeat of the operational tests above.

The planning of this demonstration shall take place in collaboration with the Client.

A certificate of completion will not be issued until all tests have been satisfactorily completed, and the plant has operated successfully, to the complete satisfaction of the Engineer. The COC for the Fire detection must be issued by a SAQCC Registered Person to the Client.

## **19. PERFORMANCE TOLERANCE**

All performance figures obtained during testing and commissioning must be within -0% and +5% of the specified performance figures given in the supplementary specification. Should the equipment fail to comply with these figures after it has been tested and operated for a period of seven days, then the Contractor shall have a further four weeks to meet the requirements of the specification, after which the Client shall have the right to reject the equipment/ plant, and the retained portion of payments will be held until such is sorted.

## **20. TEST CERTIFICATES**

The Contractor shall ensure that copies of all relevant test certificates, inspection reports, materials analysis certificates and similar data as may be required under various sections of this specification, or by Government Licensing and Inspection Authorities or Local Authorities, shall be provided before handing over the equipment/plant. Acceptance of the plant will be delayed if such certificates are not available.

## **21. APPLICATION FOR INSTALLATION**

The Contractor shall allow for the submission of the necessary forms, fees and drawings to the Inspector of Machinery or other relevant Authorities to obtain permission to install equipment where this is required. He shall also, in co-operation with the Client make any arrangements that may be required for Government Inspectors or other relevant Inspectors to carry out prescribed tests.

The Contractor shall provide a certificate of compliance for the electrical work forming part of his works.

## **22. OHS REQUIREMENTS**

After appointment, Sentech will issue a safety file plan/ requirement (file spec) or specification to be followed by the Bidder as an annexure to develop the file for evaluation by Sentech's OHS department. This document will be compiled by Bidder upon their appointment.