



CITY OF CAPE TOWN
ISIXEKO SASEKAPA
STAD KAAPSTAD

Making progress possible. Together.

FRAMEWORK AGREEMENT

FOR THE

**41S/2020/21: INSPECTION, SERVICE AND REPAIR OF THE
WATERBORNE FIRE PROTECTION SYSTEM AT STEENBRAS, ATHLONE
AND ROGGEBAAI POWER STATIONS**

MADE AND ENTERED INTO BETWEEN

CITY OF CAPE TOWN METROPOLITAN MUNICIPALITY

And



PREAMBLE

WHEREAS Term Tender 41S/2020/21 was awarded to [REDACTED] on **08 February 2021** in line with resolution **SCMB 26/02/21** for the inspection, service and repair of the Waterborne Fire Protection System at Steenbras, Athlone and Roggebaai Power Stations, for a period of 6 (six) years.

AND WHEREAS it is recorded that this Contract will be governed by the provisions of the National Treasury - General Conditions of Contract (revised July 2010), read with the Contract Specific Data ("**SCC**") annexed hereto marked "Annexure A".

NOW THEREFORE THE PARTIES AGREE AS FOLLOWS:

1. PARTIES

The Parties to this Contract are:

- 1.1 **The City of Cape Town**, a metropolitan municipality, established in terms of the Local Government: Municipal Structures Act. 117 of 1998 read with the Province of the Western Cape: Provincial Gazette 5588 dated 22 September 2000, as amended ("**the Employer**"), herein represented by the **Director: Electricity Generation and Distribution** duly authorised hereto;
- 1.2 [REDACTED] a private company registered in terms of the laws of the Republic of South Africa with registration no: [REDACTED] with its principal place of business situated at [REDACTED] (the "**Contractor**"), herein represented by its duly authorised representative, [REDACTED] in his/her capacity as Administrator.

each a "**Party**" and together the "**Parties**".

2. INTERPRETATION

2.1. In the event of any conflict between the provisions of this Contract, the GCC and any Annexure attached hereto, or any other document incorporated by reference to this Contract, save to the extent expressly stated to the contrary, such conflict will be resolved by giving precedence to such different parts of this Contract in the following order of precedence:

2.1.1. first, the terms and conditions of the SCC;

2.1.2. second, the terms and conditions of the GCC;

2.1.3. third, Annexures and schedules to this Contract; and

2.1.4. fourth, any other documents incorporated by reference.

2.2. The provisions of this Contract supersede and replace the provisions of any previous agreement entered into between the Parties relating to the same subject matter.

3. APPOINTMENT AND DURATION

3.1. The Employer hereby appoints the Contractor to perform the Scope of Work to the Employer from the Commencement Date.

3.2. Unless terminated earlier in accordance with the provisions as set out in the GCC or any other provision in terms of this Contract, this Contract shall commence on the Commencement Date and shall endure for a period of **6 (six) years**.

4. MUTUAL GOOD FAITH / CO-OPERATION

4.1. The Parties represent and undertake to do all such things, perform all such acts and take all steps to procure the doing of all such things and the performance of all such acts, as may be necessary or incidental to give effect to the execution of this Contract.

- 4.2. The Parties shall at all times during the continuance of this Contract observe the principles of good faith towards one another in the performance of their obligations in terms of this Contract.

5. OBLIGATIONS OF THE EMPLOYER

- 5.1. The Employer undertakes to perform its obligations in accordance with the Contract, including but not limited to the Scope of Work: annexed marked "Annexure D", subject to the satisfactory fulfilment of the obligations by the Contractor as set out in this Contract.
- 5.2. The Employer shall monitor and evaluate the Contractor's performance in respect of the Scope of Work.

6. OBLIGATIONS OF THE CONTRACTOR

- 6.1. The Contractor hereby agrees and undertakes to perform the Services to the Employer as set out in Scope of Work.
- 6.2. The Contractor will perform the Works as expeditiously as possible and furthermore agrees and undertakes to perform the services in accordance with the operational requirements of the Employer.
- 6.3. The Contractor will ensure that the Works will be of a satisfactory quality and fit for purpose.
- 6.4. The Contractor shall, ensure that its employees, agents, representatives, sub-contractors and suppliers comply with this Contract and all applicable Laws in the execution of the Works.
- 6.5. The Contractor will not conduct any activity of whatsoever nature which may be detrimental to the Employer's reputation and goodwill.

7. PRICING DATA

- 7.1. The Contract Price for the Works shall be as set out in the Pricing Data annexed marked "Annexure B".
- 7.2. The Contractor shall not be entitled to any other consideration for the rendering of the Works other than as provided for in this Contract.

8. Form of Contract Agreement

The employer, identified in the acceptance signature block, has solicited offers to enter into a contract for the procurement of:

CONTRACT NO.41S/2020/21: INSPECTION, SERVICE AND REPAIR OF THE WATERBORNE FIRE PROTECTION SYSTEM AT STEENBRAS, ATHLONE AND ROGGEBAAI POWER STATIONS

The Contractor, identified in the signature block, has examined the documents listed in the tender data and addenda thereto as listed in the returnable schedules, and by submitting this offer has accepted the conditions of contract.

The completed Schedules of Rates (excluding VAT), as contained in Part C2.2 Pricing Data, shall form the tender offer. These rates shall be multiplied, as applicable, by the quantities required in respect of relevant items to develop individual Works Projects to be allocated in accordance with the procedures described in Part C1.2 Contract Data in this Framework Contract document.

The terms of the contract, are contained in:

Annexure A: Agreements and contract data, (which includes this agreement)

Annexure B: Pricing data

Annexure C: Contract Price Adjustment

Annexure D: Specifications

Annexure E: Insurance Brokers Warranty


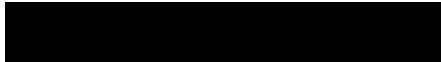
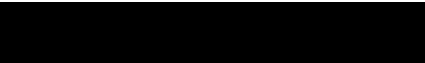
Annexure F: Occupational Health and Safety Agreement

together with any drawings and documents or parts thereof, which may be incorporated by reference into the above listed Parts.

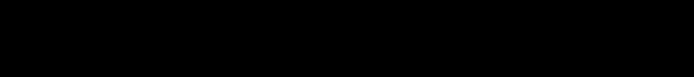

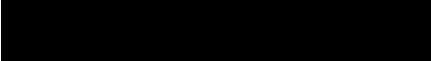

The Contractor shall within two weeks after receiving a completed copy of this agreement, including the schedule of deviations (if any), contact the employer's agent (whose details are given in the contract data) to arrange the delivery of any securities, bonds, guarantees, proof of insurance and any other documentation to be provided in terms of the conditions of contract identified in the contract data. Failure to fulfil any of these obligations in accordance with those terms shall constitute a repudiation of this agreement.

Notwithstanding anything contained herein, this agreement comes into effect on the date of signing by the last party signing the agreement.

CONTRACTOR :FIRE CHECK(PTY)LTD

Signature: 
Name: _____
Capacity: Director
Date: 5.10.2021
Witness 1:  Date: 5.10.2021
Witness 2:  Date: 5.10.2021

EMPLOYER: THE CITY OF CAPE TOWN

Signature: 
Name: 
Capacity: Executive Director
Date: 21 October 2021
Witness 1:  Date: 2021/10/12
Witness 2:  Date: 2021/10/07

ANNEXURE A

CONTRACT SPECIFIC DATA

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

1. Definitions

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 contract. 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 [REDACTED]

Add the following after Clause 1.25:

1.26 'Supplier' means any provider of goods and / or services with whom the contract is concluded

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

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 All parties in a joint venture or consortium shall be jointly and severally liable to the purchaser in terms of this 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 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, **save that if the Employer 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 that 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 cancellation of the contract, restriction of the supplier, and/or the exercise by the City of any other remedies available to it as described in the SCM Policy.

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 order:

- 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
- d) Other requirements as detailed in the tender documents

3.5.2 Only when notified of the acceptance of the bid by the issuing of the order, the supplier shall commence with and carry out the delivery of the goods 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 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 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 to the supplier.

3.5.11 Comply with the provisions of the OHAS Act & all relevant regulations including current Covid-19 regulations at the time of tender.

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 orders for the goods required under this Contract. No liability for payment will ensue for any work done if an official purchase order has not been issued to the supplier.

3.6.2 Make payment to the **supplier** for the goods as set out herein.

3.6.3 Take possession of the goods 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 documents.

3.6.6 Grant or refuse any extension of time requested by the supplier to the period stated in clause 10.

3.6.7 Inspect the goods 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 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 contract and need not obtain the supplier's permission to copy 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 for the contract and the purchaser hereby indemnifies the supplier against any claim which may be made against him by any party 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 contract within two (2) years of completion of the services 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 contract 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 Employer.

5.8.2 The supplier hereby assigns to the Employer, all Intellectual Property created, developed or otherwise brought into existence by it for the purposes of the contract, 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 Employer's Intellectual Property for any purpose other than as contemplated in this contract;

5.8.3.2 not modify, add to, change or alter the Employer'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 Employer;

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 Employer;

5.8.3.4 comply with all reasonable directions or instructions given to it by the Employer in relation to the form and manner of use of the Employer Intellectual Property, including without limitation, any brand guidelines which the Employer may provide to the supplier from time to time;

5.8.3.5 procure that its employees, directors, members and contractors comply strictly with the provisions of clauses 5.8.3.1 to 5.8.3.3 above;

unless the Employer expressly agrees thereto in writing after obtaining due internal authority.

5.8.4 The supplier represents and warrants to the Employer that, in providing goods, services or both, as the case may be, for the duration of the contract, it will not infringe or make unauthorised use of the Intellectual Property rights of any third party and hereby indemnifies the Employer 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 In the event that the contract is cancelled, terminated, ended or is declared void, any and all of the Employer's Intellectual Property, and any and all information and data related thereto, shall be immediately handed over to the Employer by the supplier and no copies thereof shall be retained by the supplier unless the Employer expressly and in writing, after obtaining due internal authority, agrees otherwise.

7. Performance Security

|
'Not Applicable. |

8. Inspections, tests and analyses

Delete Clause 8.2 and substitute with the following:

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 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 order. Orders for the supply and delivery of goods may be raised up until the expiry of a framework agreement bid, provided that the goods can be delivered within 30 days of expiry of the framework contract. All orders, other than for the supply and delivery of goods, must be completed prior to the expiry of the contract period.

10.2 The purchaser shall determine, in its sole discretion, whether the goods 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 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 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:

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;

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;

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 bidder's broker or

the insurance company itself (see **Proof of Insurance / Insurance Broker's Warranty** section in document for a pro forma version).

In the event of under insurance or the insurer's repudiation of any claim for whatever reason, the CCT will retain its right of recourse against the supplier.

11.3 The supplier shall be obliged to furnish the CCT with proof of such insurance as the CCT 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 **Proof of Insurance / Insurance Broker's Warranty** section of the document or copies of the insurance policies.

15. Warranty

Add to Clause 15.2:

15.2 This warranty for this contract shall remain valid for **Twelve (12) months** after the goods have been delivered.

16. Payment

Delete Clause 16.1 in its entirety and replace with the following:

16.1 A monthly payment cycle will be the norm. All invoices which are dated on or before the 20th of a particular month will typically be paid between the 23rd and 26th of the following month. The supplier may submit a fully motivated application regarding more frequent payment to the Employer's Director: Expenditure for consideration. Requests for more frequent payments will be considered at the sole discretion of the Employer and is not a right in terms of this contract.

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 order, the supplier shall only be entitled to payment for goods actually delivered in terms of the Project Specification and Drawings, or any variations in accordance with clause 18. Any contingency sum included shall be for the sole use, and at the discretion, of the purchaser.

The CCT is not liable for payment of any invoice that pre-dates the date of delivery of the goods.

16.6 The purchaser will only make advanced payments to the supplier in strict compliance with the terms and details as contained on **Proforma Advanced Payment Guarantee** and only once the authenticity of such guarantee has been verified by the City's Treasury Department.

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 Director: Supply Chain Management if such was not included in the bid documents.

17.3 If as a result of any extension of time granted the contract execution will be completed beyond a period of twelve (12) months from the expiry of the original tender validity period, then contract price adjustment may apply to that period beyond such twelve (12) months. An appropriate contract price adjustment formula

will be determined by the Director: Supply Chain Management if such was not included in the bid documents.

17.4 The prices for the goods delivered and services performed shall be subject to contract price adjustment and the following conditions will be applicable:

- a) Consumer Price Index (CPI) in accordance to STATS SA
- b) Manufactures price list
- c) Rate of Exchange (RoE) |

17.5 If price adjustment for variations in the cost of plant and materials imported from outside of South Africa is provided for in the contract, such adjustment shall be based on the information contained on the schedule titled "**Price Basis for Imported Resources**" and as below. For the purposes of this clause the Rand value of imported Plant and Materials inserted on the schedule titled "**Price Basis for Imported Resources**" (column (F)) shall be the value in foreign currency (column (A)) converted to South African Rand (column (C)) by using the closing spot selling rate quoted by **CCT's** main banker, NEDBANK, on the Base Date (seven calendar days before tender closing date) rounded to the second decimal place (column(B)), to which shall be added any Customs Surcharge and Customs Duty applicable at that date (columns (D) and (E)).

17.5.1 Adjustment for variations in rates of exchange:

(a) The value in foreign currency inserted in column (A) shall be subject to clause (h) below when recalculating the Rand value.

(b) The rate of exchange inserted in column (B) shall be the closing spot selling rate quoted by Council's main banker, NEDBANK, on the Base Date, rounded to the second decimal place, subject to sub-paragraph (c) below.

(c) If the rate of exchange inserted by the Tenderer differs from the NEDBANK rate referred to above, then the NEDBANK rate shall apply and the Rand value in columns (C) and (F) shall be recalculated accordingly, without altering the price in the Price Schedule for the relevant items.

(d) If a tender from a supplier or sub-contractor provides for variations in rates of exchange, the Supplier may **only** claim for variations in rates of exchange if he binds the supplier or sub-contractor to the same provision to take out forward cover as described in sub-paragraph (e) below.

(e) The Supplier (or sub-contractor) shall within five working days from the date of placing a firm order on an overseas supplier, cover or recover forward by way of a contract with a bank which is an authorised foreign exchange dealer, the foreign exchange component of the cost of any imported Plant and Materials inserted by the Tenderer on the schedule titled "**Price Basis for Imported Resources**".

(f) When the Supplier (or sub-contractor) so obtains forward cover, the Supplier shall immediately notify the CCT of the rate obtained and furnish the CCT with a copy of the foreign exchange contract note.

(g) Based on the evidence provided in sub-paragraph (f) above, the value in Rand inserted in column (C) of on the schedule titled "**Price Basis for Imported Resources**" shall be recalculated using the forward cover rate obtained, and any increase or decrease in the Rand value defined in this clause shall be adjusted accordingly, subject to sub-paragraph (h) below.

(h) The adjustments shall be calculated upon the value in foreign currency in the Supplier's (or sub-contractor's) **forward cover contract**, provided that, should this value exceed the value in foreign currency inserted in column (A) of on the schedule titled "**Price Basis for Imported Resources**", then the value in column (A) shall be used.

17.5.2 Adjustment for variations in customs surcharge and customs duty

(a) Any increase or decrease in the Rand value between the amounts of Customs Surcharge and Customs Duty inserted in on the schedule titled "**Price Basis for Imported Resources**" and those amounts actually paid to the Customs and Excise Authorities, which are due to changes in the percentage rates applicable or to the foreign exchange rate used by the authorities, shall be adjusted accordingly.

(b) The Tenderer shall state the Customs Duty Tariff Reference applicable to each item and the Supplier shall advise the CCT's Agent of any changes which occur.

17.5.3 Adjustment for variation in labour and material Costs

If the prices for imported Plant and Materials are not fixed, the Supplier shall in his Tender specify the formula for calculating Contract Price Adjustments normally used in the country of manufacture and the indices and relative proportions of labour and material on which his Tender prices are based. Evidence of the indices applicable shall be provided with each claim. The indices applicable 42 days before contractual dispatch date from the factory will be used for the purposes of Contract Price Adjustment.

Failure to specify a formula in the Tender shall mean that the prices are fixed or shall be deemed to be fixed.

17.6 Planning for this contract is based on a six-year budget which is subject to change. While the Employer has every intention to complete the full scope of works, the Employer reserves the right to reduce or increase the scope of works according to the dictates of the budget, to terminate this contract, and/or to review and terminate this contract as is contemplated in Section 116(1)(b)(iii) of the Local Government: Municipal Finance Management Act 56 of 2003, without adjustment to the agreed rates, sums or fees and without payment of any penalty or surcharge in this regard. The Supplier shall however be entitled to pro-rata payment for all services carried out in terms of any adjustment to the Scope of Work or, in the case of termination, remuneration and/or reimbursement as described in Clause 17.

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, extension of the duration or expansion of the value of the contract that the purchaser issues to the supplier as instructions in writing, 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, such work will not become due and payable until amended order has been issued by 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 CCT and the subcontractor, or a responsibility or liability on the part of the CCT to the subcontractor and shall not relive the supplier from any liability or obligation under the contract.

21. Delays in the supplier's performance

Delete Clause 21.2 in its entirety and replace with the following:

21.2 If at any time during the performance of the contract the supplier or its subcontractors should encounter conditions beyond their reasonable control which impede the timely delivery of the goods, the supplier shall notify the purchaser in writing, within 7 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 a contract shall be deemed to prohibit the obtaining of goods 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 **[R2000 per day]** this cost is a portion of losses in income per day as the Power Station cannot be operated while the waterborne fire protection system is taken out of commission or requires repairs. The penalties shall be applicable when the agreed date of completion of works is not achieved by the service provider. A programme of works will be agreed within 5 working days from the purchase order date.

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.

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 The parties by mutual agreement terminate the contract.

23.8.3 If an Order has been issued incorrectly, or to the incorrect recipient, the resulting contract may be terminated by the purchaser by written notice

23.8.4 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, provided the City Manager follows the processes as described in the purchasers SCM Policy.

23.8.5 After providing notice to the supplier, if the implementation of the contract may result in reputational risk or harm to the City as a result of (inter alia):

- 23.8.5.1 reports of poor governance and/or unethical behaviour;
- 23.8.5.2 association with known family of notorious individuals;
- 23.8.5.3 poor performance issues, known to the Employer;

- 23.8.5.4 negative social media reports; or
- 23.8.5.5 adverse assurance (e.g. due diligence) report outcomes.

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.

25. Force Majeure

Add the following after clause 25.2:

25.3: In the event of a force majeure, the contractor remains liable to put in place mitigation measures and plans to reduce or avoid any delays or additional costs. Within 10 No. calendar days of becoming aware or ought to have become aware of such delay, the contractor shall give notice to the CA/Employer of the intention to submit a claim for a revision to the date of practical/sectional completion, failing which the contractor shall forfeit such claim.

25.4: The contractor shall submit a claim for a revision of the date of practical completion to the CA/Employer within 20 No. calendar days from when the contractor is able to quantify the delay in terms of the programme. Such a claim should include a complete claim breakdown, including but not limited to substantiating proof of costs associated with the loss in working time and/or additional measures required i.e. Invoices, Government relief payments, pay slips, Plant breakdown and standing time costs, Updated schedules etc.

25.5: Where the contractor requests a revision of the date for practical/sectional completion, the claim shall in respect of each circumstances separately state the following:

- a.) The cause and effect of the delay on the current date for practical/sectional completion, where appropriate illustrate by a change to the critical path on the current programme.
- b.) The extension period claimed in calendar days and the calculations thereof.

25.6: Upon fulfilling the requirements of the above clause 25.3 to 25.5, the contractor will be entitled to a revision of the date for practical/sectional completion without an adjustment of the contract value for the delay to practical completion caused by one or more of the following events:

- a.) Adverse weather conditions
- b.) Inability to obtain materials and goods where the contractor has taken reasonable steps to avoid or reduce such a delay.
- c.) Making good physical loss and repairing damage to the works where such a risk is beyond the control of the parties.
- d.) Exercise of statutory power by a body of state or public or local authority that directly affects the execution of the works
- e.) Force Majeure as defined in the contract conditions.

26. Termination for insolvency

Delete clause 26.1 and replace with the following:

26.1 The purchaser may make either of the following elections to ensure its rights are protected and any negative impact on service delivery is mitigated:

26.1.1 accept a supplier proposal (via the liquidator) to render delivery utilising the appropriate contractual mechanisms; or

26.1.2 terminate the contract, as the liquidator proposed supplier is deemed unacceptable to the purchaser, at any time by giving written notice to the supplier (via the liquidator).

26.2 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

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 23.1(c), 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 (b) and replace with the following:

(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 working day of delivery
- 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 supplier to submit documentary evidence in the form of a valid Tax Clearance Certificate 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).

Add the following after clause 32.3:

32.4 The **VAT registration** number of the City of Cape Town is 

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. Any failure in this regard may result in a delay in the processing of any payments.

Annexure B: Pricing Data

(5) PRICE SCHEDULE

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

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

ITEM	DESCRIPTION	FREQUENCY	UNIT	PRICE PER UNIT EXCL.VAT R
SECTION A: INSPECTION AND REPAIR SERVICES (SEE SCHEDULE 8 FOR PRICING INSTRUCTIONS FOR OUTER YEARS OF YEAR 1) <u>Allow for all costs and expenses in connection with the following:</u>				
A1	Inspect and service all hand operated isolating and control valves.	Annually	<u>Per Service</u>	R 1500 -00
A2	Inspect and service all Wormald and Viking Deluge valves, including the supply of all parts and consumables.	Per quarter (every 3 months)	<u>Per Service</u>	R 6800 -00
A3	Inspect and service all Viking and Wormald High Velocity sprayers.	Per quarter (every 3 months)	<u>Per Service</u>	R 1500 -00
A4	Inspect all Wormald and Viking Glass Bulb Detectors.	Per quarter (every 3 months)	<u>Per Service</u>	R 1500 -00
A5	Operational testing of the fire protection system on completion of all work.	As and when required	<u>Per Service</u>	R 3500 -00
A6	Certification in accordance with SANS 10287(SABS 0287).	As and when required	<u>Per Service Certificate</u>	R 1500 -00

SECTION B: MATERIALS

(SEE SCHEDULE 8 FOR PRICING INSTRUCTIONS WITH REGARD TO THE OUTER YEARS OF YEAR 1)

Item	Description	Unit	Net Unit Price Excluding Vat For the <u>First</u> 12 months of the contract period R	Delivery period – tenderers to stated delivery within weeks from date of official order (Preferred delivery within 4-6 weeks)	Manufacturer's Name and Address
B1	Deluge Valves Deluge valves supplied, installed and commissioned as per specification (including spare parts), to the size and number stated below:	-	-		
B1.1	WORMALD automatic and manual control deluge valve 50 mm (2") or equivalent	Each	R 28 000 -00	4-6 weeks	Firequip JHB
B1.2	WORMALD automatic and manual control deluge valve 100 mm (4") or equivalent	Each	R 42 000 -00	4-6 weeks	Firequip JHB
B1.3	WORMALD automatic and manual control deluge valve 150 mm (6") or equivalent	Each	R 68 000 -00	4-6 weeks	Firequip JHB
B1.4	Viking 100 mm Delude Valve or equivalent	Each	R 48 000 -00	4-6 weeks	Firequip JHB
B1.5	Viking 50 mm Delude Valve or equivalent	Each	R 32 000 -00	4-6 weeks	Firequip JHB

Item	Description	Unit	Net Unit Price Excluding Vat For the <u>First</u> 12 months of the contract period R	Delivery period – tenderers to stated delivery within weeks from date of official order (Preferred delivery within 4-6 weeks)	Manufacturer's Name and Address
B2	Hand Operated Isolating Valves All valves supplied, installed and commissioned as per specification (including spare parts), to the size and number stated below.				
B2.1	Ø25 Isolating Valve	Each	R 1250 - 00	2-4 weeks	MACSTEEL
B2.2	Ø32 Isolating Valve	Each	R 1450 - 00	2 - 4 weeks	MACSTEEL
B2.3	Ø50 Isolating Valve	Each	R 1650 - 00	2 - 4 weeks	MACSTEEL
B2.4	Ø65 Isolating Valve	Each	R 1850 - 00	2-4 weeks	MACSTEEL
B2.5	Ø100 Isolating Valve	Each	R 2200 - 00	2 - 4 weeks	MACSTEEL
B2.6	DN 100 PN 10/16 Hand Valve or equivalent	Each	R 6800 - 00	2 - 4 weeks	MACSTEEL
B2.7	FIG. WD- 3510 – 8 Butterfly Valve 250 psi – MFD 3/14 or equivalent	Each	R 10 500 - 00	2 - 4 weeks	MACSTEEL
B2.8	½" ball valve	Each	R 220 - 00	2 - 4 weeks	MACSTEEL

Item	Description	Unit	Net Unit Price Excluding Vat For the <u>First</u> 12 months of the contract period R	Delivery period - tenderers to stated delivery within weeks from date of official order (Preferred delivery within 4-6 weeks)	Manufacturer's Name and Address
B3	Sprinklers Heads:				
B3.1	Exposed upright, pendant spray pattern or conventional pattern sprinkler head uncoated bronze finish, 68°C	Each	R 140 - 00	4-6 weeks	Firequip JHB
B3.2	Multiple Jet Controls with inlet size 50mm and outlet size 38mm, 68°C	Each	R 12500 - 00	4-6 weeks	Firequip JHB
B3.3	Open medium velocity sprayers, same orifice size and discharge angles as existing	Each	R 1250 - 00	4-6 weeks	Firequip JHB
B3.4	Supply and install Wormald and Viking Glass Bulb Detectors	Each	R 450 - 00	4-6 weeks	Firequip JHB

Item	Description	Unit	Net Unit Price Excluding Vat For the <u>First</u> 12 months of the contract period R	Delivery period – tenderers to stated delivery within weeks from date of official order (Preferred delivery within 4-6 weeks)	Manufacturer's Name and Address
B4	Piping and Fittings Supply and delivery to site including installation, cutting, reaming and threading or butt welding of SANS 62 Medium Grade pipework. Primed and painted to specification.				
	Straight Piping Lengths				
B4.1	Ø25	Per/m	R 150-00	1 week	Macsteel
B4.2	Ø32	Per/m	R 180-00	1 week	Macsteel
B4.3	Ø40	Per/m	R 220-00	1 week	Macsteel
B4.4	Ø65	Per/m	R 420-00	1 week	Macsteel
B4.5	Ø100	Per/m	R 650-00	1 week	Macsteel

Item	Description	Unit	Net Unit Price Excluding Vat For the <u>First</u> 12 months of the contract period R	Delivery period – tenderers to stated delivery within weeks from date of official order (Preferred delivery within 4-6 weeks)	Manufacturer's Name and Address
	Sockets and reducing sockets				
B4.6	Ø32 to Ø25	Each	R 80 -00	1 week	Macsteel
B4.7	Ø40 to Ø32	Each	R 90 -00	1 week	Macsteel
B4.8	Ø65 to Ø40	Each	R 120 -00	1 week	Macsteel
	Elbows and reducing elbows				
B4.9	Ø25	Each	R 80 -00	1 week	Macsteel
B4.10	Ø32	Each	R 90 -00	1 week	Macsteel
B4.11	Ø40	Each	R 120 -00	1 week	Macsteel
B4.12	Ø100	Each	R 300 -00	1 week	Macsteel

Item	Description	Unit	Net Unit Price Excluding Vat For the <u>First</u> 12 months of the contract period R	Delivery period – tenderers to stated delivery within weeks from date of official order (Preferred delivery within 4-6 weeks)	Manufacturer's Name and Address
	Tees and reducing tees				
B4.13	Ø32 x Ø32 x Ø25	Each	R 80 -00	1 week	Macsteel
B4.14	Ø40 x Ø40 x Ø25	Each	R 90 -00	1 week	Macsteel
B4.15	Ø40 x Ø40 x Ø32	Each	R 120 -00	1 week	Macsteel
B4.16	Ø65 x Ø65 x Ø25	Each	R 280 -00	1 week	Macsteel
B4.17	Ø100 x Ø100 x Ø32	Each	R 420 -00	1 week	Macsteel
B4.18	Ø100 x Ø100 x Ø100	Each	R 600 -00	1 week	Macsteel

Item	Description	Unit	Net Unit Price Excluding Vat For the <u>First</u> 12 months of the contract period R	Delivery period – tenderers to stated delivery within weeks from date of official order (Preferred delivery within 4-6 weeks)	Manufacturer's Name and Address
B5	Fire Pumps				
B5.1	Complete hydraulic flow and pressure calculation.	Each	R 25 000	6-8 weeks	Natal Pumps
B5.2	Supply and install Diesel fire booster pump, including SANS 10400 certification and base mounting plates. Estimated Duty: 6600 l/min @ 8 Bar.	Each	R 880 000	6-8 weeks	Natal Pumps
B5.3	Supply and install Electric fire booster pump, including SANS 10400 certification and base mounting plates. Estimated Duty: 6600 l/min @ 8 Bar.	Each	R 795 000	6-8 weeks	Natal Pumps
B5.4	Supply and install Jockey Pump to maintain pressure.	Each	R 57500	6-8 weeks	Natal Pumps
B5.6	Fire pump starting pressure switch, rating 15 amp 230 V.AC	Each	R 30 000	6-8 weeks	Natal Pumps
B5.7	1600 kPa pressure Gauge	Each	R 850	1 week	Macsteel

Item	Description	Unit	Net Unit Price Excluding Vat For the First 12 months of the contract period R	Delivery period – tenderers to stated delivery within weeks from date of official order (Preferred delivery within 4-6 weeks)	Manufacturer's Name and Address
B6	Diaphragms and Valve Seatings				
B6.1	Waste Valve Seatings	Per set	R 350 -00	2-weeks	Macfluid
B6.2	Deluge Valve Seat Diaphragms	Per set	R 1500 -00	2-4 weeks	Macfluid
B6.3	Deluge Valve Clark Seats	Per set	R 1500 -00	2-4 weeks	Macfluid
B6.4	Test Valve Seats	Per set	R 1500 -00	2-4 weeks	Macfluid
B6.5	Deluge Valve Operating Diaphragms	Per set	R 2500 -00	2-4 weeks	Macfluid
B6.6	Alarm Valve Face Plate Joints	Per set	R 2800 -00	2-4 weeks	Macfluid
B7	Control Panels				
B7.1	Supply and install Diesel control panel, including SANS 10400 certification and testing and electric connection to panel.	Each	R INC. PUMP PRICE	6-8 weeks	Natal Pumps
B7.2	Supply and install Electric control panel, including SANS 10400 certification and testing and electric connection to panel.	Each	R INC. PUMP PRICE	6-8 week	Natal Pumps

Item	Description	Unit	Net Unit Price Excluding Vat For the <u>First</u> 12 months of the contract period R	Delivery period – tenderers to stated delivery within weeks from date of official order (Preferred delivery within 4-6 weeks)	Manufacturer's Name and Address
B8	Supply and install Diesel storage tank Including piping and connections and 200L Diesel fuel after final handover.	Each	R INCL. IN PUMP PRICE		NATAL PUMPS
B9	Unscheduled Parts: The price for unscheduled Parts shall be determined based on the landed cost plus on-cost. Up to Three quotations from the Contractor's suppliers must be submitted for evaluation by City of Cape Town. The City of Cape Town reserves the right for approval of unscheduled parts. The mark-up percentage is 10 %	Each	- N/A		

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 In terms of **Section A** of the pricing schedule the first year will be fixed prices and outer years will be subjected to contract price adjustment in accordance with the average Consumer Price Index (See schedule 8).

5.9 **Section B**, first year will be fixed price and outer years will be subjected to contract price adjustment. Tenderers that are NOT manufacturers of the tendered items are subject to contract price adjustment based on the SUPPLIER'S / MANUFACTURER'S PRICE LISTS from the supplier or manufacturer of the tendered items, as detailed in Clause 8.4.2 of Schedule 8

Tenderers who are the DIRECT IMPORTER of the Goods may claim rate of exchange price variations as detailed in clause 8.4.3 of schedule 8.

5.10 The City of Cape Town will make one award to a contractor who tendered for both section A and B and an alternative contractor which will be activated when the main contractor defaults.

Annexure C: Contract Price Adjustment and/or Rate of Exchange Variation

Schedule 8: Contract Price Adjustment and/or Rate of Exchange Variation
1

8.1 PRICING INSTRUCTIONS

- 8.1.1 The Contract Price Adjustment mechanisms and/or provisions relating to Rate of Exchange Variation contained in this schedule are compulsory and binding on all tenderers.
- 8.1.2 Failure to complete this schedule or any part thereof may result in the tender offer being declared non-responsive.
- 8.1.3 Tenderers are not permitted to amend, vary, alter or delete this schedule or any part thereof unless otherwise stated in this schedule, failing which the tender offer shall be declared non-responsive.
- 8.1.4 Tenderers are not permitted to offer firm prices except as provided for in the Price Schedule, and if the tenderer offers firm prices in contravention of this clause the tender offer shall be declared non-responsive.

The prices tendered on the pricing schedule shall be subject to price adjustment as follows:

8.2 PRICE SCHEDULE SECTION A CONTRACT PRICE ADJUSTMENT WILL BE SUBJECTED TO CONSUMER PRICE INDEX (CPI)

CPI: STATS SA

1st year: 12 months from date of commencement of contract - Firm – No request for price increases shall be entertained.

2nd year: Subject to adjustment in accordance with the average **Consumer Price Index. Base month** for the price adjustment shall be the month of commencement of the 1st year and **end date** shall be 12th month of the 1st year. (12 months totaled/12 to achieve the average CPI)

3rd year: Subject to adjustment in accordance with the **Consumer Price Index. Base month** for the price adjustment shall be the month of commencement of the 2nd year and **end date** shall be 12th month of the 2nd year. (12 months totaled/12 to achieve the average CPI)

Please Note: Year on year increases.

PRICE SCHEDULE SECTION B

8.3 Tenderers that are NOT Manufacturers of the Tendered Items (If more than one manufacturer are used please supply the additional manufacturer's information on Schedule 13 of this document)

Tenderers that are **NOT** manufacturers of the tendered items are subject to contract price adjustment based on the SUPPLIER'S / MANUFACTURER'S PRICE LISTS from the supplier or manufacturer of the tendered items, as detailed in Clause 8.4.1 of Schedule 8, and shall complete the following:

Supplier: _____

Date of Price List/Quotation upon which tender is based _____

Price List/Quotation Reference Number _____

N.B.

- The above information must be provided for each item supplied to the Tenderer.
- Copies of price lists on which tender prices are based shall be enclosed for all items. The items referenced on the Pricing Schedule must be clearly identified on the Price List.
- Tenderers will be entitled to claim only the difference between the cost of the product at the time of tendering and the new cost. Documentation to this effect must be submitted with each claim.

8.4 RATE OF EXCHANGE VARIATIONS

Only tenderers who are the DIRECT IMPORTER of the Goods may claim rate of exchange price variations. (Refer to Clause 8.4.3 below).

Exchange Rate on which tender is based: _____ 1 = S A Rand _____

Name _____ of _____ Bank: _____

Date of quoted rate of exchange (Seven Calendar Days before tender closing): _____

The end date applicable for variation shall be the date of shipment received (i.e. The date of the Bill of Lading / Waybill / Customs Invoice)

Tenderer to indicate applicable documentation (Bill of Lading / Waybill / Customs Invoice):

If any other documentation other than those indicated above is applicable, the tenderer is to indicate this clearly and identify the applicable documentation in the space provided above.

TABLE 8.4: PRICE BASIS FOR IMPORTED RESOURCES

Item No.	Value in foreign currency	Rate of exchange as at 7 days prior to date of tender	Value in Rand, of foreign currency content (columns AxB)	Customs Surcharge		Customs Duty		Amount of South African Content	Total in Rand of columns C+D+E+F (Total Tender Price) (Excl. VAT)
				%	R	%	R		
	(A)	(B)	(C)		(D)		(E)	(F)	(G)
B1.1									
B1.2									
B1.3									
B1.4									
B1.5									
B2									
B2.1									
B2.2									
B2.3									
B2.4									
B2.5									
B2.6									
B2.7									
B2.8									
B3									
B3.1									
B3.2									
B3.3									
B3.4									
B4									
B4.1									
B4.2									
B4.3									
B4.4									
B4.5									
B4.6									
B4.7									
B4.8									
B4.9									
B4.10									
B4.11									
B4.12									

Item No.	Value in foreign currency	Rate of exchange as at 7 days prior to date of tender	Value Rand, in of foreign currency content (columns AxB)	Customs Surcharge		Customs Duty		Amount of South African Content	Total in of Rand of columns C+D+E+F (Total Tender Price) (Excl. VAT)
				%	R	%	R		
	(A)	(B)	(C)		(D)		(E)	(F)	(G)
B4.13									
B4.14									
B4.15									
B4.16									
B4.17									
B4.18									
B5									
B5.1									
B5.2									
B5.3									
B5.4									
B5.6									
B5.7									
B6									
B6.1									
B6.2									
B6.3									
B6.4									
B6.5									
B6.6									
B7									
B7.1									
B7.2									
B8									
B9									

8.4.1 Supplier / Manufacturer Price List Variations (Refer to 8.3. above)

This section is applicable to **Tenderers that are NOT the manufacturer** of the tendered Goods.

This section is **also applicable to** Tenderers that are importing overseas

manufactured component parts for assembly into tendered goods that are locally manufactured.

If the contract is subject to variation based on **SUPPLIER / MANUFACTURER PRICE LISTS**, the following will be applicable:

- 8.4.1.1 Contractors shall make the application for contract price adjustment prior to the date upon which the price adjustment would become effective.
- 8.4.1.2 The effective date of any price adjustment granted will be the first day of the month following the month during which the fully substantiated application for contract price adjustment is submitted and approved or, by agreement between the Contractor and the Employer, a subsequent date on which the price adjustment will become effective.
- 8.4.1.3 In instances where the Contractor's price adjustment claimed is less than entitled, the lesser price will be accepted.
- 8.4.1.4 Purchase orders placed prior to the effective date of any price increase shall be placed at the previously agreed price, not the claimed adjusted price.
- 8.4.1.5 Only the difference in cost may be adjusted and under no circumstances may the Contractor increase their profit margin.
- 8.4.1.6 The process to be followed by the Contractor for claims for contract price adjustment shall be as follows:
 - a) The Contractor shall submit all of the documentation indicated below a minimum of two weeks prior to the effective date of the contract price adjustment.
 - b) The Employer will consider the proposed contract price adjustment and based on the documentary evidence, the Employer may approve the adjustment.
 - c) A letter authorising the price adjustment will be issued to the Contractor.
 - d) All purchase orders issued subsequent to the effective date of the contract price adjustment will be issued at the approved adjusted contract price.

8.4.1.7 The Contractor shall supply the following documentation when applying for a contract price adjustment:

- a) The price list that the tender was based upon clearly indicating the items numbered according to the tender pricing schedule.
- b) The new price list from the same Supplier / Manufacturer as originally tendered and clearly indicating the items numbered according to the tender pricing schedule and the revised price applicable to each item.
- c) Detailed calculations indicating how the new price has been established.
- d) A covering letter on the Contractor's letterhead requesting the contract price adjustment.
- e) All documentation is to be signed by the Supplier / Manufacturer and by the Contractor.

8.4.1.8 In the event of a Contractor changing their Supplier / Manufacturer during the tenure of the contract, no request for price variations will be considered unless the Contractor has obtained prior approval from the City for the change of Supplier / Manufacturer. Such approval shall include technical approval by the Engineer of the goods supplied by the replacement Supplier / Manufacturer. Technical approval by the Engineer shall be a prerequisite for any change of Supplier / Manufacturer.

8.4.2 Rate of Exchange Variations (Refer to 8.4 above)

8.4.2.1 The Tenderer shall note The Department: Trade and Industry Local Production and Content requirements included with and forming a part of this specification, where applicable, and shall comply fully therewith.

8.4.2.2 If the Contract price is subject to variations in RATES OF EXCHANGE the Tenderer SHALL complete the appropriate section in Schedule 8 (Section 8.4), failing which no claim for contract price adjustment on the basis of rate of exchange variations will be considered.

8.4.2.3 Only Contractors that are directly importing the tendered Goods or component parts of the tendered Goods may claim rate of exchange variations.

8.4.2.4 The price adjustment for variations in the cost of plant and materials imported from outside of South Africa shall be based on the information contained on the schedule titled "**Price Basis for Imported Resources**" and as below. The Rand value of Plant and Materials comprising entirely or partly imported content that is inserted on the schedule titled "**Price Basis for Imported Resources**" (column (G)) shall be the rate tendered in the Pricing Schedule, and shall be the value in foreign currency (column (A)) converted to South African Rand (column (C)) by using the closing spot selling rate on the Base Date (seven calendar days before tender closing date) rounded to the second decimal place (column (B)), to which shall be added any Customs Surcharge and Customs Duty applicable at that date (columns (D) and (E)) and any South African manufactured or added content (column

(F)). Any mark-up by the Tenderer or other costs not detailed above shall be entirely contained within the South African Content (Column (F)).

- 8.4.2.5 The Supplier shall within seven working days from the date of receipt of the purchase order arrange for cover or recovering forward by way of a contract with a bank which is an authorised foreign exchange dealer, the foreign exchange component of the cost of any imported Plant and Materials inserted by the Tenderer on the schedule titled "**Price Basis for Imported Resources**", and submit such Forward Cover quotation to the City for approval. Following such approval, the forward cover shall be contracted within a further two working days and a copy provided to the City.
- 8.4.2.6 Based on the evidence provided in Clause 8.4.3.5 above, the value in Rand inserted in column (C) of on the schedule titled "**Price Basis for Imported Resources**" shall be recalculated using the forward cover rate obtained, and any increase or decrease in the Rand value defined in this clause shall be adjusted accordingly, subject to Clause 8.4.3.7 below.
- 8.4.2.7 The adjustments shall be calculated upon the value in foreign currency in the Supplier's **forward cover contract**, provided that, should this value exceed the value in foreign currency inserted in column (A) of on the schedule titled "**Price Basis for Imported Resources**", then the value in column (A) shall be used.
- 8.4.2.8 Any increase or decrease in the Rand value between the amounts of Customs Surcharge and Customs Duty inserted in on the schedule titled "**Price Basis for Imported Resources**" and those amounts actually paid to the Customs and Excise Authorities, which are due to changes in the percentage rates applicable or to the foreign exchange rate used by the authorities, shall be adjusted accordingly.
- 8.4.2.9 The Tenderer shall state the Customs Duty Tariff Reference applicable to each item and the Supplier shall advise the CCT's Agent of any changes which occur.
- 8.4.2.10 Contractors shall take out Forward Cover covering the foreign exchange component of the cost of any imported portion of the Goods ordered on each purchase order issued by the Employer.
- 8.4.2.11 The process to be followed by Contractors for claims for Rate of Exchange Variations shall be as follows:
- a) On receipt of a purchase order the Contractor shall arrange for a quotation for Forward Cover from their banking institution.
 - b) This Forward Cover quotation shall be submitted to the Employer for approval of the Forward Cover rate within seven working days from date of receipt of the purchase order.
 - c) Only once the Forward Cover rate is approved may the Contractor engage in a formalised contract with their banking institution and submit the Forward Cover contract to the Employer. This shall be done

within two working days from the City's approval.

- d) The Forward Cover Contract shall refer to the purchase order number, shall be signed by both parties (the Contractor and the Banking Institution) and shall be valid until such time as the goods are delivered to the Employer.

8.4.2.12 On delivery of the goods to the City the Contractor shall submit the following documentation:

- - a) The Bill of Lading/Waybill/Customs Invoice (clearly indicating the items as identified on the purchase order).
 - b) Calculations detailing the difference in the rate of exchange at the time of entry and the date of tender. These shall be submitted on a covering letter.
 - c) The invoice / credit note for the Rate of Exchange adjustment applicable to the specific order.

8.4.3 Supplier Price List Variations for Contractors Supplying Imported Goods by Another Party (Refer to 8.3 above).

8.4.3.1 Tenderers that intend to purchase the goods from another supplier who is in turn importing the goods shall obtain Firm Prices from the supplier and shall submit the price list in accordance with the process outlined in Clause 8.4.2 above. The updated pricelist shall be submitted to the City within seven calendar days of the date of the purchase order date. The City reserves the right the request further supporting documents to substantiate the claimed adjustments.

8.4.4 Contract Price Adjustment – General

8.4.4.1 All requests for variation in the contract price shall be submitted in writing as follows:

- By letter to: Director Supply Chain Management, City of Cape Town, P O Box 655, Cape Town, 8000, or
- by email to: CPA.Request@capetown.gov.za

prior to the date upon which the price adjustment would become effective.

8.4.4.2 When submitting an application for contract price adjustment the Contractor shall provide the applicable supplier's actual published pricelists applicable to the particular month, and the actual revised rate proposed for each item. A mere notification of an application for contract price adjustment without stating the adjusted price claimed for each item shall, for the purpose of this clause, not be regarded as a valid claim.

8.4.4.3 The Employer reserves the right to request the Contractor to submit auditor's certificates or such other documentary proof as it may require in order to verify a claim for contract price adjustment. Should the supplier fail to submit

such auditor's certificates or other documentary proof to the City of Cape Town within a period of 30 (thirty) days from the date of the request, it shall be presumed that the supplier has abandoned his claim.

Annexure D: SPECIFICATIONS

DESCRIPTION OF THE WORKS

CONTENTS

1. EMPLOYER'S OBJECTIVES
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1. EMPLOYER'S OBJECTIVES

The Steenbras Power Station, Athlone Gas Turbines and Roggebaai Gas Turbines (City of Cape Town Electricity Generation department) proposes all services required to facilitate the service, repair, statutory inspection and certification of the waterborne fire protection system at the Steenbras Power Station, Athlone Gas Turbines and Roggebaai Gas Turbines including the testing in accordance to SANS 10400 and SANS 10287 (SABS 0287).

2. GENERAL DESCRIPTION

Background

All the existing waterborne fire protection system installations at Steenbras, Athlone and Roggebaai Power Stations are currently certified in accordance with Sprinkler Inspection Bureau (ASIB) requirements.

The Steenbras Power Station accommodates four reversible pump/turbine electrical generator sets, two units per vertical machine shaft of 21.00 meter in diameter with a distance of 42.00 meters between the two shafts.

The high velocity water spray system was designed and installed to provide fire protection to the transformers and bulk diesel tank. In total thirteen individually protected zones and eight fire hydrants are serviced.

Two auto start/manual stop fire pumps, one electric and one diesel driven, takes water from the lower reservoir through a suction strainer and deliver

it under pressure to the high velocity water spray and fire hydrant system under fire conditions. If any one of the Deluge valves operate or a fire hydrant is open, the resultant pressure drop will cause the fire pump to start.

A multi-stage centrifugal pump (Jockey Pump) maintain the delivery mains pressure above the fire pump starting pressure to prevent the fire pump from starting due to pressure fluctuations under non-fire conditions.

Automatic deluge valves designed for automatic operation on dry systems control the water supply. The detector system is always charged with air or water. The operation of any one of the Dynatherm bulb detectors will cause the automatic opening of the Deluge valve.

Three alarms are installed to monitor each valve. One switch monitors the pressure in the detector system giving two individual alarms, the Air Pressure Low and Fire Alarms. A second switch monitors the Deluge valve discharge pressure to indicate that the Deluge valve has opened and water are being supplied to the sprayers.

Two automatic air eliminators continuously purge the system of any trapped air reducing the possibility of pressure surges and water hammer in the system.

While on the other hand, the Athlone and Roggebbai Gas turbines have each one installed deluge valve fire system which maintains and controls the water pressure, alarm and releasing of water during fire emergency, to protect the Gas Turbines Transformers. These deluge valves receive water from the town water main, and has no pumps aiding to increase the water pressure, they completely depend on the town water main pressure which applies to the fire hydrants as well.

3. OVERVIEW OF THE WORKS

Before any work is put in hand, the contractor has to familiarize himself with the sites.

The successful tender shall service, repair and inspect the waterborne fire protection system at Steenbras, Athlone and Roggebbai Power Stations as per this specifications and stipulations in the pricing schedules.

This service will include the following activities:

- 3.1. (A1) Inspect, service and repair all hand operated isolating and control valves.
- 3.2. (A2) Inspect, service and repair all Wormald and Viking Deluge valves, including the supply of all parts and consumables as stipulated in the parts list in the pricing schedule.
- 3.3. (A3) Inspect, service and repair all Wormald and Viking High Velocity sprayers.

- 3.4. (A4) Inspect, service and repair all Wormald and Viking Glass Bulb Detectors.
- 3.5. (A5) Operational testing of the fire protection system on completion of all work.
- 3.6. (A6) Certification in accordance with SANS 10287 (SABS 0287)
- 3.7. (B1) Replace all Wormald and Viking Deluge valves, including the supply of all parts and consumables as stipulated in the parts list in the pricing schedule.
- 3.8. (B2) Replace all hand operated isolating and control valves including the supply of all parts and consumables as stipulated in the parts list in the pricing schedule.
- 3.9. (B3) Replace all Wormald and Viking High Velocity sprayers including the supply of all parts and consumables as stipulated in the parts list in the pricing schedule.
- 3.10. (B3.4) Replace all Wormald and Viking Glass Bulb Detectors including the supply of all parts and consumables as stipulated in the parts list in the pricing schedule.
- 3.11. (B4) Supply and install piping and fittings as stipulated in the pricing schedule
- 3.12. (B5) supply and install fire pumps as stipulated in the pricing schedules
- 3.13. (B6) Supply and install diaphragms and valve Seatings as stipulated in the pricing schedule
- 3.14. (B7) Supply and install control panels as stipulated in the pricing schedule
- 3.15. (B8) Supply and install diesel storage tanks as stipulated in the pricing schedule
- 3.16. The contract shall include but not be limited to:
 - 3.16.1. The daily removal from site of any waste generated by the works.
 - 3.16.2. The provision of any scaffolding and lifting equipment required for the completion of the work as described in this document.
 - 3.16.3. The contractor shall co-operate fully with all other trades and contractors operating on site and is to furnish and request any information necessary for the entire works to proceed in an orderly manner without interference or delay.
 - 3.16.4. Where work is to be installed in close proximity to work of other trades, or where there is evidence that work may interfere with work of other trades, the contractor shall assist in resolving space allocations and make

proposals for the necessary adjustments.

3.16.5. The specifications and requirements to achieve this successfully as stipulated in this document.

4. LOCATION OF THE WORKS

The Steenbras Power Station is a Hydroelectric Pumped Storage scheme located at Hydro street, Gordon's Bay. The Two gas turbines stations are located at Athlone Power Station, off Bhunga Avenue, and the Roggebaai Power Station is located in Cape Town, on Nelson Mandela Boulevard. See location plan attached to this document.

5. (B9) UNSCHEDULED PARTS

5.1. Unscheduled parts refer to items that may be required during the tenure of this contract.

5.2. The price for unscheduled parts shall be determined based on the landed cost plus on-cost, including all transport cost for delivery to site.

5.3. The percentage of mark-up that will be charged in respect of unscheduled parts will be 10%.

6. SITE CONDITIONS

6.1. Co-operation during construction

The Sub-Contractor shall co-operate with all other Sub-Contractors on Site and co-ordinate activities to allow all contractors to do their work.

6.2. Toilet and Ablution Facilities

Contractor to provide basic toilet and ablution facilities

6.3. Storage of Materials and Goods

The Contractor shall provide on Site a suitable store or container for the temporary storage of Materials and Goods. The location and nature of the store or container shall be determined on Site in collaboration with the Client and Engineer and payment for materials on Site will only be considered if the Engineer is satisfied that the store or container will ensure adequate security for such materials. The store or container shall be removed and the area cleared to the satisfaction of the Client and Engineer on completion of the Contract.

Materials permitted to be stored within building shall be safely stacked and shall not overload floor construction beyond the legal permissible floor loading. Combustible materials shall not be stored on premises longer than minimum period necessary for execution of work. Fire protective measures shall be provided as directed by Principal Agent and/or Principal Contractor.

6.4. Electrical Supply

The City of Cape Town will provide free issue of approximately:
Supply voltage Medium voltage: 11 000V $\pm 6\%$
Low voltage: 420V $\pm 10\%$ -line voltage
242V $\pm 10\%$ phase voltage
Frequency: 50 Hz

6.5. Compliance with Regulations

The works shall comply with all the requirements and bylaws of the relevant local authorities. Where the proposed layouts, or any of the materials specified, etc., do not comply with the regulations, the matter shall immediately be brought to the attention of the Engineer in writing.

The complete works shall comply in particular with the specifications and requirements of:

- 6.5.1. All South African National Standards associated with the construction and safety of wet services installations and associated equipment.
- 6.5.2. The Occupational Health and Safety Act, Act 85 of 1993, as amended.
- 6.5.3. The appropriate South African National Standards governing building regulations.
- 6.5.4. The South African National Standards applicable to the wiring of premises.
- 6.5.5. This detailed specification and the drawings forming part of the tender documents.

Certificates of approval from the local authority, if called for, shall be delivered to the Engineer and/or Quantity Surveyor before the final payment certificate shall be issued.

6.6. Materials, Workmanship and Alternative Manufacture

Materials, workmanship and equipment offered shall be as specified herein. Should the tenderer wish to offer alternative materials, equipment, etc., the details shall be submitted at close of tender in a covering letter accompanying the tender and clearly identifying the extent, quality and advantages of the alternative(s).

All materials shall be of the quality specified and the contractor shall, upon request by the engineer, furnish the engineer with proof to his reasonable satisfaction that the materials are of the specified quality. The contractor shall keep the employer and the engineer informed regarding the placing of all orders for materials and the progress of manufacture or any article or materials. All materials shall be new unless otherwise instructed or specified. Materials, goods and equipment described by trade names or catalogue references shall be of the type and manufacture specified. Alternative materials, goods and equipment equal to those specified may be offered.

The decision whether the alternative articles are acceptable shall rest with the engineer. Where alternatives for such materials, goods and equipment

are permitted, the contractor shall be liable for latent defects in such materials, goods and equipment and or the cost of making good physical loss and repairing damage to the works resulting therefrom. Once accepted, the same type and make of material, goods and/or equipment shall be used and installed throughout the project for a specific application.

6.7 Protection

The contractor shall protect all work and material, i.e. his and others, from damage by his work and workmen, and shall be liable for all damage caused should the protection not be provided or prove to be inadequate. The contractor's responsibility in this respect shall extend until his work and equipment have been finally inspected, tested and accepted. Open ends of pipework shall be closed with temporary covers or plugs during storage and construction to prevent entry of obstructing material. This shall be strictly enforced.

6.8 Testing and Inspections

The contractor shall, at his own cost, make all necessary arrangements and provide all necessary facilities for testing and inspection of the installation by the local authorities concerned and other authorised interested parties. The contractor shall provide any instruments or equipment required for these tests. The execution of these tests shall be to the complete satisfaction of the inspecting authorities/parties.

6.9 Tuition

The contractor shall provide capable instructor/s to train the employer's personnel. The instructor/s shall be available for a total period of 5 (Five) working day's (eight hours a day) after the system has been commissioned and handed over to the employer. The Operating and Maintenance Manuals shall be in possession of the employer before the training commences.

Training provided must include:

1. Information provided in the Design Intent Report (including energy / environmental features)
2. Review of controls set up, programming, alarms and troubleshooting
3. Review of OEM manuals
4. Building operation (start up, normal operation, unoccupied operation, seasonal changeover, shutdown)
5. Measures that can be taken to optimise energy efficiency
6. Occupational Health and Safety (OH&S) issues
7. Maintenance requirements and sourcing replacements; and
8. Obtaining and addressing occupant satisfaction feedback.

6.10 Guarantee and Maintenance

The contractor shall guarantee the works against defects for a period of one (1) year from date of completion. The guarantee shall cover all defects to

the works and shall provide for the replacement or repair of all components that become defective during the guarantee period. Consumable components are excluded from the guarantee. Where component parts or equipment are supplied by the employer, the contractor or the agent or where the make is specified without an alternative, then the contractor shall be responsible for such component parts or equipment only to the extent that the contractor is able to assign to the employer the benefit of warranties by the supplier or manufacturer.

The works is to be operated and maintained in accordance with the Operating and Maintenance Manuals prepared by the contractor. Any damage to the works resulting from the employer's failure to comply with the procedures set out in these manuals will not be covered by the guarantee. The contractor shall provide maintenance on 3 months' bases as and when required by the employer following the hand over to the employer. The maintenance shall include for all management, labour, lubricating materials, cleaning materials and transport. The guarantee shall be given to the Principle Contractor. Where the guarantee period extends beyond the patent defects liability period of the Principal Building Agreement, the guarantee shall be ceded to the employer for the remainder of the period.

7. STANDARD TECHNICAL SPECIFICATION

7.1 PAINTING AND FINISHING

7.1.1 General

All equipment, materials and fasteners installed under this contract shall be protected against rust, oxidization and corrosion by the application of an approved protective coating. Such protective coatings shall be compatible with the materials applied to and shall at all times conform to the application instructions or recommendations of the manufacturer. All aluminium equipment as well as Air handling units will be epoxy coated. The appropriate and recommended primers shall be applied after de-scaling, cleaning, washing, drying or wiping as may be required and before finishing coats are applied. Only the highest quality approved finishing, priming, etching and cleaning materials shall be used.

7.1.2 Piping Valves, Fittings and Equipment

Un-insulated piping, valves and fittings shall be coated with one coat specified primer, field applied after erection, and finished with two coats high gloss enamel. Insulated piping shall be prime coated and inspected by the Engineer prior to insulation being applied. Black steel or iron work shall be treated as for un-insulated piping. Equipment supplied painted or coated by the manufacturer shall not be repainted unless so specified. Minor damaged areas may be spot coated with identical coatings supplied by the manufacturer. Severely damaged equipment shall be re-coated to factory specifications.

7.1.3 Supports and Galvanized Items

All pipe work supports and brackets shall be of stainless steel grade 304 materials as specified in the ASIB rules or SANS 10287. Galvanized surfaces shall be properly degreased, neutralized with water, painted with galvanized primer and painted with two coats of the colour specified.

7.1.4 Other Coatings

All coating materials not mentioned above such as electroplating, galvanizing, chroming, varnishing, rubberizing and other should be applied strictly in accordance with the manufacturer's specifications.

Piping – Fire

Sprinklers	Signal Red G.7	
Hose reels	Signal Red G.7	
Hydrants	Signal Red G.7	
CO2	Signal Red G.7	Windsor Green G.33
Foam	Signal Red G.7	Windsor Green G.33

Miscellaneous

Bases – Steel/Steel Edge	Black G.2
Bases – Concrete Brackets	Black G.2
Drive Guards (Pump, Fan, etc.)	Calypso G.127
Motor Fan Guards	Calypso G.127
Handrails and Walkways	Aluminium
Motors	Manufacturer's Standard
Valve Wheels and Handles - Fire Services	Medium Yellow G.6
Valve Wheels and Handles - Other Services	Signal Red G.7
Plant room Floors	Pale Grey (Gehopon) G.W.3762
Airtight Access Doors	Medium Yellow G.6

Equipment

Chillers & Package Factory Assembled Equipment	Manufacturer's Standard
Cooling Towers	Manufacturer's Standard
Exposed Ducts, Dampers & Sound Attenuators, Air Handling Units and Centrifugal Fans	Tropic Sand (Mobil Corp) CG.0421
Axial Fans (as part of site assembled duct systems)	Light Brown G.32
Fans (miscellaneous vent/exhaust units)	Manufacturer's Standard
Filter Frames and Housings	Light Brown G.32
Plenums (site assembled air handling units)	Tropic Sand (Mobil Corp) CG.0421
Pumps (chilled, condenser, hot water, fire)	As Respective Piping Service
Pumps (sump, spray, etc.)	Manufacturer's Standard

Tanks (expansion/storage, etc.)	As Respective Piping Service
Water Treatment Plant	Manufacturer's Standard

Switchboards, Distribution Boards, etc.

Air Conditioning	Calypso G.127
General Power and Lighting	White N.Y.1
Emergency Power and Lighting	Signal Red G.7
Security	Autowash Brown BPF.57

7.2 CONTRACT MANAGEMENT OF MECHANICAL SUB-CONTRACTS

7.2.1 Co-Operation with Building Contractor and Other Contractors

Render full co-operation to the Principal Contractor and to other Sub-Contractors. Provide any information necessary to permit work of all trades to be installed satisfactorily and without interference or delay. Where work is to be installed in close proximity to work of other trades, or where there is evidence that work may interfere with work of other trades, assist in resolving co-ordination issues to make satisfactory adjustment prior to preparation of shop drawings.

The programme and progress of Building Contractor will largely dictate the programme and order of work to be followed by the mechanical Contractor. The mechanical Contractor is therefore required to collaborate closely with the Building Contractor and other Sub-Contractors and in many instances will have to subordinate his preferred order of work or programme to suit the requirements of the Building Contractor and the contract as a whole.

7.2.2 Supervision

In addition to the requirements of the Conditions of Tender and Conditions of Contract, the Contractor shall supply the services of an experienced and competent Contract Supervisor to be in constant charge of work at site.

7.2.3 Handling of Equipment

Investigate each space through which equipment must be moved or handled. Where necessary, equipment shall be transported from manufacturer in crated sections of size suitable for moving through restricted spaces available.

7.2.4 Temporary Use of Equipment

No equipment intended for permanent installation shall be operated for temporary purposes, without the written permission of, and in complete agreement with stipulations, as set for by the Architect and/or Engineer.

7.2.5 Storage of Materials

In addition to the requirements of the Conditions of Tender and Conditions of

Sub-Contract, the following shall apply:

Materials permitted to be stored within building shall be safely stacked and shall not overload floor construction beyond the legal permissible floor loading. Combustible materials shall not be stored on premises longer than minimum period necessary for execution of work. Provide fire protective measures as directed by Employer or Engineer.

7.2.6 Handover Inspections

The Contractor must allow for reasonable assistance to the Engineer during inspections. The installation will be inspected by the Engineer on a regular basis during the course of the Contract to ensure compliance with this specification. A written record will be kept of all defects noted. The Contractor shall provide a competent person to accompany the Engineer or his representative during inspections. This person shall know the installation, shall be in a position to accept and carry out instructions and shall take notes during the inspections so that the remedial work can commence immediately and is not held up while waiting for the inspection certificate.

On completion of the contract works, final physical inspections will be carried out as commissioning proceeds. Any deviation from specification or below standard workmanship is to be rectified to the satisfaction of the Engineer by the Contractor, prior to requesting a Certificate of Practical Completion. The Contractor must replace any portion of the installation that does not meet with the requirements of this Specification as may be imposed thereon by test or inspection. Such replacements shall be done at his own cost.

A certificate of Practical Completion will be issued when the contract works are to all intents and purposes complete, commissioned and available for beneficial use by the Owner. (The date of this Certificate will determine the commencement of the guarantee period.) A Certificate of Final Completion will only be issued when all defects listed at the time of partial completion have been complied with. The issue of this Certificate will coincide with certification of payment of the full contract sum (excluding retention).

The Contractor must ensure that the installation is correct, complete and to specification before calling for acceptance inspections. Recording charts of all tests by the Contractor must be submitted to the Engineer before applying for acceptance inspections. The cost of any abortive inspections, where the Engineer is called to site, but finds the sub-Contractor ill prepared for it, may be deducted from the Contract Price by Variation Order. The Engineer can request that any part of the system of the complete system be retested, recorded and measured as part of the acceptance inspections if there exists reasonable doubt about the accuracy of the test.

7.2.7 Guarantee

The Contractor shall guarantee the material, apparatus and workmanship delivered by him for a period of twelve months. The guarantee must be valid for a period starting on the date when the Contract is accepted by the Engineer as complete and in working condition. The complete installation must be

guaranteed against defects as a result of patent and latent defects of the design and apparatus, (save design defects made or specified by the Engineer), as well as against faulty materials and workmanship. The guarantee must provide that all parts, spares and appurtenances that become defective during the guarantee period be replaced free of charge. The costs of labour and transportation required to replace such part of a defective installation shall be borne by the Contractor and shall be included in his guarantee.

The Contractor shall cede to the Employer the remainder of any equipment guarantee, which he has received from his suppliers, which extend beyond the period of twelve months mentioned herein. In the event of the project being phased, guarantee on installation and equipment shall commence on the date on which it is put into operation for beneficial use to the satisfaction of the Engineer.

7.3 TESTING AND COMMISSIONING OF MECHANICAL INSTALLATIONS

7.3.1 General

The Contractor shall test, balance and commission the installation as required to achieve specified performance and efficient operation of the system and record all details of measurements taken. A responsible Commissioning Engineer employed by the Contractor shall be present to supervise the operation and adjustment of the equipment during the entire commissioning stage.

The Contractor shall carry out all of the above before requesting acceptance and witnessing of performance by the Engineer. Commissioning data shall be fully tabulated in conjunction with the design data and submitted to the Engineer prior to the inspection being carried out by the Engineer.

Commissioning of equipment and systems shall not be undertaken if damage to the equipment, systems or the building could result due to incomplete and incorrect installation work. Commissioning procedures as stipulated by the suppliers of equipment shall be strictly adhered to.

The commissioning of equipment such as refrigeration machines, boilers, air compressors, etc. shall be undertaken by the suppliers under the supervision of the Contractor. Calibrated instrumentation required to measure flows, pressures, temperatures, etc. shall be provided by the Contractor. The entire control system shall be adjusted and commissioned by the control system specialist contractors, where applicable. All safety protection systems shall be fully commissioned and set points properly checked out and adjusted, before equipment shall be allowed to run for commissioning purposes.

7.3.2 Performance and Capacity Tests

Where the Engineer is to witness tests, the Contractor shall ensure that the Engineer receives reasonable notice that such tests will take place. Tests required to demonstrate specified capacity and general operating characteristics of all systems and equipment, shall be undertaken by the Contractor under the direction of the Engineer at time of final inspection.

7.4 OPERATING AND MAINTENANCE INSTRUCTIONS FOR MECHANICAL INSTALLATIONS

7.4.1 Manuals

A condition of the final acceptance of the works will be the provision of three copies of an approved comprehensive Maintenance and Operating Instruction Manual. Each copy of the manual is to include the following:

- A general description of the system and its operation.
- Details of the method of operation of the plant and controls.
- An equipment and controls list giving the following:
 - Description
 - Quantity
 - Make
 - Model Number
 - Location
- A schedule of the servicing to be done on each item of equipment and controls and the frequency.
- A log sheet giving the design parameters and provisions for the logging of these parameters by the plant operator.
- Description of automatic control system, accompanied by control schematics (where necessary).
- Step-by-step instructions for starting/stopping each item of equipment
- A record of relevant readings taken during final commissioning and hand-over tests.
- "As-built" drawings, wiring diagrams, piping schematics.

7.4.2 Owner Instruction

The Contractor, in addition to the operating and maintenance manuals, shall give detailed explanation of and instructions to the Owner on the operation of the complete installation as finally commissioned and handed over. The Sub-Contractor shall operate the whole plant for a period of five consecutive full working days after the plant is handed over. During this period, the Sub-Contractor shall instruct the Owner in the operation of the plant.

7.5 ELECTRICAL WORK (FOR MECHANICAL INSTALLATIONS)

7.5.1 General

All electrical equipment shall be suitable for the declared voltage of the Supply Authority. Unless otherwise specified, electrical energy will be brought to the Contractor's local isolator or main switchboard by the employer. The supply and installation of electrical works from the local isolator or switchboard to the equipment shall form part of this contract.

7.5.2 Wiring Diagrams

Although covered elsewhere, specific mention is made of the provision of

wiring diagrams. Apart from submitting comprehensive wiring diagrams for approval prior to the commencement of control board manufacture, the Contractor is to provide on completion "as-built" wiring diagrams for all electrical work forming part of this contract. Copies of these diagrams and those for manufactured equipment are to be included in the Operating and Maintenance Instruction manuals.

7.5.3 Notices and Fees

The Contractor shall give all notices required by and pay all necessary fees, including any inspection fees, which may be due to the Local Supply Authority.

7.5.4 Electricity Supply

All equipment shall be capable of operating continuously under variations in the supply system of $\pm 5\%$ in the voltage and $\pm 5\%$ in the frequency. The system supply data is set out in the detailed installation specification.

7.5.5 Compliance with Regulations, Standards and Specifications

The complete electrical installation shall satisfy the Local Supply Authority and shall further comply with the Code of Practice for the Wiring of Premises as issued by the South African Bureau of Standards, the Local Supply Authority By-Laws and the requirements of the Manpower and Occupation Safety Act, Act 6 of 1983.

The latter shall take precedence in the case of conflicting requirements. Except where otherwise provided for in this specification, all equipment offered shall comply with the requirements of the relevant SABS standard specification, if published and shall bear the mark, otherwise with the relevant British Standards in force at the time of tendering, the specifications mentioned herein or shall otherwise be "approved".

Where equipment offered complies with the recognized standards of the country of manufacture and not specifically, with the standards required by this specification, such equipment will be considered at the discretion of the Engineer. In this case, Tenderers shall state fully, all respects in which the equipment offered departs from the standards laid down in this specification.

7.5.6 Protection of Electrical Equipment

No piping shall pass through any Elevator Machine Room, Transformer Room, Emergency Generator Room, Switchboard Room or Electrical Duct. In general no piping shall be located in the same room within 1,8m in plain view of any part of any electrical switchboard. Where the above is not practical, protect electrical apparatus as follows:

Provide watertight drip pans of 1mm galvanized sheet metal, reinforced and properly supported, under all

pipings near electrical control boards. Provide 32mm drain outlet pipes to spill over nearest floor drain.

7.5.7 Standardization of Materials and Equipment

Wherever possible the equipment offered shall be of one make with the facility to interchange corresponding parts/components. Materials and equipment used in this contract must, where possible, be of South African manufacture. The Sub-Contractor shall submit samples of any materials or equipment, if required, for approval before installation. Such samples will be held for comparison purposes with equipment and materials installed and will be released on satisfactory completion of the contract.

7.5.8 Conduit

Conduits shall enter distribution boards from above, unless otherwise specified. Mechanical and electrical continuity must be maintained throughout the conduit installation, although conduit shall NOT be relied upon for each continuity. Conduits shall be screwed into outlets of conduit boxes where possible but where fixed to boxes they shall be secured by means of sockets and brass bushes passing through properly sized clearance holes.

All conduit ends shall be cut square to enable the conduits to be butted at all conduit sockets and joints and conduit threads shall not show at the joints or terminations except where running joints are made. All lubricants used to ease screwing shall be wiped off and oil shall not be used. The inside of conduits, the ends of conduits, and all fittings used in the connection therewith shall be smooth and free from burrs and all other defects. All exposed screw threads and parts where galvanized or paint finish has been damaged shall be thoroughly cleaned and painted with a zinc-rich paint for galvanized or a black bitumastic paint for black enamel conduits.

Conduits shall comply with SABS 1065-Part I.

All conduits shall be heavy gauge, screwed, welded seamless, or solid drawn, unless otherwise specified in the detailed installation specification. No conduit with less than 20mm external diameter shall be used. Concealed conduit shall be finished black enamel but shall be galvanized for use externally for surface installation or where exposed to weather. All junction boxes used in conjunction with steel conduit shall be of heavy steel or cast iron construction, to SABS 1065-Part II. Boxes for external use or in damp situations shall either be provided with gaskets or with machined faces and watertight covers.

The use of inspection elbows, solid bends and tees will not be permitted except where shown on the drawings. All fittings used with galvanized conduit shall be galvanized. All screws shall be cadmium plated. All surface conduits shall be supported by cast distance saddles. Conduits shall be supported on both vertical and horizontal runs at 1500mm centers.

7.5.9 Cabling

Single core cables used in the wiring of building shall be 600/1000 Volt grade PVC insulated to SABS 150.

The cables shall be from recent stocks and must be delivered on the site with seals unbroken and bearing the SABS mark. Cables shall be sized accordingly to the duty they are to perform in accordance with the relevant standards. Where multiple circuits or single core cables are run in parallel runs, the use of proprietary metallic wiring trunkings with PVC cables drawn in will be permitted. Such wiring trunks shall be totally enclosed, electrically continuous, bonded, provided with removable cover plates and fabricated from 43mm galvanized steel and provided with returned edges.

Connections to motors shall terminate in a short length of flexible conduit. Adaptaflex type SP, Kopex or equal and approved for dry conditions, Adaptaflex type SPL for conditions exposed to dust, watery suds or oils. Earth continuity conductors shall be installed in all conduits and provided for all cables. Terminals shall be enclosed in purpose-made terminal boxes. The terminal boxes shall be generously sized, metallic or approved non-metallic (e.g. dough moulding compound and shall be provided with DIN mounting rail terminal blocks sized to requirements, terminal screws which do not act directly on the conductors, removable cover plates and adequate cable or conduit entries).

Multicore armoured cables shall be PVC PVC SWA PVC to SABS 150-1970 or MICC to BS 6207 Part I and shall be fitted with maker's approved glands, and ends shall be properly made off. Cable glands for PVC cables shall comply with the requirements of SABS 1213-1984 and shall bear the mark.

7.5.10 Cable Trays

In most circumstances, it will be permitted to run cable on a cable tray in which case the tray shall be manufactured of galvanized steel of not less than 1,6mm gauge. Cable trays shall be complete with bends, tees, etc. and be continuous. Cable trays shall be perforated galvanized steel with upstand 12mm high for up to 250mm wide trays and 50 high for wider trays. Cable ladders similar and equal to Sankey Strut may also be used. Trays shall be securely supported from ceilings or brackets and by means of screwed galvanized rods 10mm diameter and cross supporting angle or unistrut section, at intervals of 1500mm.

7.5.11 Testing of the Electrical Installation

Conduct such tests and adjustment of equipment as specified elsewhere, and as necessary to verify performance requirements, and as required by all Authorities having jurisdiction. Submit data taken during such tests to the Engineer. The Engineer reserves the right to be present during these tests and shall be

notified 48 hours in advance. Attend on the Engineer and give all assistance required and provide such tools, materials, implements and instruments as are necessary for the tests.

The Engineer reserves the right to call for such additional tests as he may consider necessary. Upon completion of work the electrical installation shall be tested for earthing and short circuits in accordance with the Code of Practice. If tests indicate inadequate insulation resistance, corrections shall be made as directed by the Engineer. Insulation resistance values shall be not less than those specified in the Code of Practice.

Operational tests of electrical equipment shall be performed as directed by the Engineer and as specified elsewhere. Notify and make arrangements with the officials of the Supply Authority for carrying out all municipal tests. Provide attendance, tools, staging and all other facilities to the Supply Authorities as may be required for the purpose of these tests. Should retesting be required by the Supply Authority pay all fees incurred by such test. The Engineer reserves the right to present at the tests and should be notified 48 hours in advance. Certificates of Compliance shall be issued to the Engineer for all electrical work that was done by the Contractor.

7.5.12 Electric Motors

General

All electric motors shall be constructed in accordance with the following requirements where applicable.

SABS 948 Part I - 1978: Three Phase Induction Motors

SABS 1189 - 1978: Single Phase Induction Motors

BS 4999 Index - 1977: Specification for General Requirements for Issue 4 Rotating Electrical Machines

The mounting and coupling arrangement for the motors shall suit the plant layout, but adequate provision shall be made for ease of replacement of motors. Motors shall be minimum Class F insulation. Motor terminal boxes shall be adjustable to allow for cable entry from any one of three directions at 90° i.e. entrance from below or either side (not above) and for all forms of cable connections. It shall be possible to remove the motor. Terminal boxes shall be drilled and tapped to take two cable glands to SABS 1213-1984. Both holes shall be fitted with blank brass plugs.

The colour code for motors, guards, baseplates, pumps, etc. shall be standard manufacturer's ex-works paint finish unless specified otherwise.

Rating and Types

All motors shall be continuous maximum rated, three phase or single phase squirrel cage induction type, wound for duty on an earthed 380/400 or 220/230 Volt 50 Hz system. All motors shall be rated for direct-on-line starting unless otherwise indicated. Speeds shall

be suitable for the equipment to be driven. Motors shall be rated at not more than 1,3 times the designed mechanical load. Rating plates shall be provided on all motors and shall be of stainless steel or a non-corrosive alloy.

Requirements for Various Environments

Indoor Wet:

Enclosure to IP55 degree of protection.
Windings to be treated with extra impregnation and baking.

Cable entry from below.

Motors with ratings in excess of 50kW to be fitted with heaters.

Frames shall be aluminium.

Indoor Dry:

Enclosure to IP54 degree of protection.

Cable entry from bottom or sides.

Outdoor:

Enclosure to IP55 degree of protection.

Cable entry from below.

Motors with ratings in excess of 50kW to be fitted with heaters.

Frames shall be aluminium.

Caustic:

The entire housing, terminal box, fan cover, end shields and mounting foot or plate shall not be of aluminium construction.

Enclosure to IP55 degree of protection.

Dust Explosion Proof:

Enclosures and terminal boxes shall be suitable for CLASS 1 DIVISION 2 and be in accordance with SABS 0108 and SABS 314. Enclosure group, in addition to the above, with be to IP54.

Variable Speed:

All motors intended for use in variable speed applications shall be fitted with integral positive temperature co-efficient or resistance type thermistors for the thermal protection of the windings. One thermistor shall be fitted per phase and shall be wired in series with the ends brought out to the terminal box. The terminal box shall be large enough to accommodate both the power and

control cable glands.

7.6 SPRINKLER CONTROL VALVES

A complete set of approved sprinkler control valves shall be supplied and connected to the plugged connection. The sprinkler control valves shall be of a type approved by the Automatic Sprinkler Inspection Bureau (ASIB) or SANS 10287 particularly in regard to their general assembly, namely the size and arrangement of ancillary equipment; drain valves, test and alarm clocks, pressure gauges and hydraulic alarms, etc. The direction of rotation of the main stop valve spindle and the "OPEN" and "SHUT" indicators attached thereto must also conform to the above requirements.

The stop and alarm valves shall be flanged. An electrically operated booster pump shall be included and hydraulically coupled through the control valves for the purpose of boosting the pressure in the sprinkler system after alarm tests have been carried out, except where the water supply is dependent on a pumping system in which case a booster pump will form part of the pumping installation. The pump shall be provided with both a stop valve and a non-return valve on the delivery side and also a top valve on the suction side.

The necessary electrical supply in the form of a 15-amp standard plug and switch will be provided in the sprinkler valve room. Provision shall be made for both manual and automatic starting and stopping. The latter shall be activated by means of a pressure switch. An amber flashing light, which will flash while the pump is operating, shall be installed in a suitable position above the control valve cupboard.

7.7 PRESSURE GAUGES

The two pressure gauges required for the installation shall be not less than 100 mm diameter with porcelain faces registering 1 500 kPa. They shall be so connected to the control valves that one registers the pressure in the municipal supply and the other the pressure in the system. Their connections shall be taken from purpose made outlets on the valves and shall comprise a "U" tube without any fittings (elbows etc.) with all bends neatly executed. The gauges shall be fitted upright with brass shut-off cocks or other approved means of shut-off so as to permit their removal under pressure, if required.

7.8 HYDRAULIC ALARMS

In order to ensure smooth operation of the alarm, it shall be provided with grease packed ball races or self-lubricating sleeve type bearings. Full details shall be provided with the tender.

7.9 MATERIALS

All piping, fittings and valves used in the installation shall be new and of an approved type capable of withstanding a test pressure of 2 000 kPa. All piping shall be non-galvanised mild

steel manufactured in accordance with SABS 62 (medium grade), unless otherwise specified and shall be of an approved brand and the best obtainable. All pipes shall be free of rust, flakes or other faults. Notwithstanding the above stipulations, all underground pipes shall be galvanised in accordance with SABS 763.

7.10 PIPE JOINTS

All threaded pipe joints shall be made with an approved cold water pipe-jointing compound and flanges when used shall be bolted together with approved gaskets. Pipe threads shall be standard right-hand Whitworth. Mechanical pipe-joints i.e. "Klambon" or other pipe joints approved by the Engineer may be used provided they have been approved by the Automatic Sprinkler Inspection Bureau (A S I B) and are installed strictly in accordance with the instructions of the manufacturer.

7.11 WELDING

Welding in situ without the prior permission of the Main Contractor will not be permitted. If welding of any joint or joints is necessary on the site, the reasons for this shall be clearly stated in the tender. Welded joints shall be properly machined and the use of a welding torch for making holes shall not be permitted. Distribution pipes with welded crosses and tees shall be provided with female thread so that the branch pipes can be connected in the conventional way. Where pipe lengths exceed 14m they shall be fitted with flanges. All welded joints shall be hydraulically tested to 2 000 kPa. Welded joints in branch pipes will not be permitted.

7.12 PREVENTION OF AIR LOCKS

In order to prevent the lodgement of air, a proper inclination of pipelines shall be maintained throughout the work.

7.13 DRAINS AND DRAIN COCKS

Suitable drainpipes shall be provided for the 50mm outlet on the control valves and the 32mm outlet on the hydraulic alarms. Where distribution pipes are lower than the control valves, each separate section of the system shall be provided with a 20mm drain pipe. The pipe shall be properly secured to the wall and roof and carried down and plugged within 2 metres of the floor.

7.14 SLEEVES AND PIPE SUPPORTS

Where sleeves and/or pipe supports are required, these will be provided by others. All pipe supports, clamps and other suspension fittings shall be supplied and installed by the sprinkler contractor. Distribution and branch pipes shall be properly secured and branch pipes shall be anchored within 0,7m from the last sprinkler head. The Tenderer is required to provide a drawing showing full details of the sizes and manner of the suspension fittings, to the Engineer for its approval.

7.15 SPRINKLERS

All sprinklers which the contractor intends using shall be approved by the Automatic Sprinkler Inspection Bureau (ASIB) or compliant with SANS 10287. Unless otherwise specified in the Supplementary Specification the temperature rating of the sprinklers shall conform with clause 4030 of the ASIB Rules or comply with SANS 10287. The sprinkler shall not be older than two years at the date of installation. The date of manufacture of the sprinklers intended to be used, shall be stated in the tender.

7.16 BLOCK PLAN

The block plan should be in black engraved letters on white perspex or stainless metal plate such as aluminium or stainless steel. The block plan shall indicate only the buildings protected by the systems, which are served by the control valve or -valves in the particular valve cupboard. Should a building be served by valves in more than one valve cupboard, the block plan shall be provided in all valve cupboards with a clear indication of the position of the particular valve cupboard.

7.17 ALARM BELL DRAIN PIPES

The drainpipes of each alarm bell shall be taken to a point where the discharge will not cause any damage. Where there is more than one control valve in the valve cupboard the drainpipes shall be kept completely separate up to the point of discharge.

7.18 TESTING

The sprinkler installation shall be tested to the latest ASIB Rules or SANS 10287 and any defect made good.

7.19 PAINTING

Painting of all portions of the sprinkler installation, including all hangers, valves and hydraulic alarms shall form part of the sprinkler contract. Before painting is undertaken, all work shall be thoroughly cleaned of rust, scale, etc., by brushing with a stiff wire brush wherever necessary. A prime coat of high-quality zinc chromate primer shall be applied before delivery to the site. After installation, all fittings shall also be primed with zinc chromate primer and where the primer has come off the pipes, these shall be re-primed where after two coats of high gloss paint shall be applied. Unless otherwise specified, the colour of the high gloss paint shall be similar to No. D 30 Post Office red of CKS 279. The final coat of paint shall be applied only after the system has been tested and the ceilings have been painted. The final coat shall not be applied without the express consent of the Engineer.

Pipe supports and other fittings, which are not directly in contact with the pipe work, shall be painted the same colour as the ceilings or beams. The Engineer is to be consulted in this regard. The hydraulic alarm shall be painted with a prime

coat and two coats of high gloss red paint as stated above. The words 'FIRE' and 'BRAND' shall appear thereon in white letters, 100mm in height. Should the construction of the alarm be such that it is impossible or difficult to paint the letters thereon, these shall be painted on a suitable steel plate and attached to the wall in a clearly visible position.

7.20 SPARE SPRINKLERS

Spare sprinklers together with an approved sprinkler key, shall be provided in an approved cabinet fitted with an approved lock and two keys and the whole neatly mounted alongside the control valves in the Valve room. The number of spare sprinklers to be provided shall be in accordance with Clause 4040 of the rules and regulations (latest edition) as laid down by the Automatic Sprinkler Inspection Bureau (A S I B).

7.21 OPERATING AND MAINTENANCE INSTRUCTIONS

Full installation operating and maintenance instructions shall be supplied in triplicate with each system and shall include schematics and detailed wiring drawings with a full component list indicating not only component values but sources of supply.

7.22 CUTTING OF PIPES

Contractors using conventional pipe cutters are warned that all burrs and lips are to be removed by proper reaming of the cut end before threading to ensure that the original diameter is obtained. Any pipes with ends of reduced diameter found on the site shall be removed and the Contractor may be required to dismantle completed work so as to convince the Engineer that no such pipes were used elsewhere in the installation.

7.23 INSPECTION AND MAINTENANCE

Tenderers shall provide and allow for a full inspection of the sprinkler installation by the Automatic Sprinkler Inspection Bureau (ASIB) or SANS 104000 or SANS 10287 or any other organisation recommended or approved by the Engineer, before the date of the initial taking over of the system. Tenderers shall also provide and allow for three complete inspections with alarm tests every three months and for alarm tests only during the other eight months of the period of free maintenance. All such inspections and tests shall be carried out by the Competent Person in accordance to SANS 10400-A19.

8. ENGINEERING

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1. DRAWINGS APPLICABLE
2. CONTRACTOR'S DOCUMENTS

8.1. DRAWINGS APPLICABLE

The successful tender will be issued with all the available waterborne fire

systems drawings on request to the engineer, as well as the available operating and maintenance manuals.

8.2. CONTRACTOR'S DOCUMENTS

All the documents listed below shall be submitted for approval by the Engineer by the successful tender.

- i) SANS 10400 accreditation and competent person qualifications as per SANS 10400-A19
- ii) Maintenance procedures or manual after service or repairs or replacements
- iii) Health and Safety Plan

8.2.1 General Requirements

The Contractor's Documents shall comply with the following general requirements:

- a) Three copies of all documents shall be submitted.
- b) A register of all the Contractor's documents shall be provided on completion of each service.
- c) Drawings shall be prepared in accordance with the latest issue of SANS 10111. An equivalent international code of engineering drawing practice will also be acceptable.
- d) General Arrangement drawings shall be to A1 or AO size.
- e) Drawings shall be to scale, with both the scale and the drawing being large enough to clearly show all relevant components of the plant and equipment.
- f) In addition to the usual plan and two side elevations, sufficient additional sections shall be included to clearly show the arrangement of all plant and equipment.
- g) Item lists shall be provided on the drawing or on a separate parts list.
- h) Item descriptions shall include the material of construction, quantity and full identification information, including, as applicable, brand name, manufacturer's reference number, model number, size, rating, source, duty, quantity, etc.

8.2.2 Required Submissions within 14 days

The Contractor shall submit the following for acceptance within 14 days from the Commencement Date:

- a) Contractor's document register.
- b) Health and Safety Plan.

The date by which possession of the Site can be handed over to the Contractor and consequently the completion date of the Works, is dependent on the date of submission and acceptance of the documents referred to above. Cost resulting from delays in submission of the Contractor's Documents or in correcting errors or making changes on documents not approved by the Engineer shall be for the Contractor's account.

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9.1 APPLICABLE STANDARDISED SPECIFICATIONS

For the purpose of this Contract the following Standard Specifications shall apply:

- (i) SANS 10400
- (ii) SANS 10287: Automatic Sprinkler Installations for Fire-fighting Purposes.
- (iii) SANS 1286:2016: Guidance Document for the Calculation of Local Content.
- (iv) ASIB Rule Book, 12th Edition.
- (v) SANS 10085 – 1: 2004
- (vi) SANS 10103
- (vii) SANS 1200A (refer to Environmental Management

It shall be the responsibility of the Contractor to obtain, at his own expense, the most recent copies of the relevant editions of the documents referred to above.

The Contractor shall keep copies of the above Standard Specifications, copies which are available from the South African Bureau of Standards.

10. HEALTH AND SAFETY SPECIFICATIONS:

HEALTH AND SAFETY SPECIFICATION INSPECTION, SERVICE AND REPAIR OF THE WATERBORNE FIRE PROTECTION SYSTEM AT STEENBRAS, ATHLONE AND ROGGEBAAI POWER STATIONS

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1. INTRODUCTION AND BACKGROUND

1.1 BACKGROUND TO THE CONSTRUCTION HEALTH AND SAFETY SPECIFICATION

In terms of Construction Regulation 5(1) (b) of the Occupational Health and Safety Act, 1993 (Act 85 of 1993), Steenbras, Athlone and Roggebaai Power Stations, shall be responsible to prepare Health & Safety Specifications for any intended construction project and provide any Principal Contractor who is making a bid or appointed to perform construction work for the Client and/or its Agent on its behalf with the same.

The Client's further duties are as described in The Act and the Regulations made there-under. The Principal Contractor shall be responsible for the Health & Safety Policy for the site in terms of Section 7 of the Act and in line with Construction Regulation 7 as well as the Health and Safety Plan for the project.

This 'Health and Safety Specifications' document is governed by the "Occupational Health and Safety Act, 1993 (Act No. 85 of 1993), hereinafter referred to as 'The Act'. Notwithstanding this, cognizance should be taken of the fact that no single Act or its set of Regulations can be read in isolation. Furthermore, although the definition of Health and Safety Specifications stipulates 'a documented specification of all health and safety requirements pertaining to associated works on a construction site, so as to ensure the health and safety of persons', it is required that the entire scope of the Labor legislation, including the Basic Conditions of Employment Act be considered as part of the legal compliance system. With reference to this specification document this requirement is limited to all health, safety and environmental issues pertaining to the site of the project as referred to here-in. Despite the foregoing it is reiterated that environmental management shall receive due attention.

Due to the wide scope and definition of services work, every construction activity and site will be different, and circumstances and conditions may change even on a daily basis. Therefore, due caution is to be taken by the Principal Contractor when drafting the Health and Safety Plan based on these Health and Safety Specifications. Prior to drafting the Health and Safety Plan, and in consideration of the information contained here-in, the contractor shall set up a Risk Assessment Program to identify and determine the scope and details of any risk associated with any hazard at the construction site, in order to identify the steps needed to be taken to remove, reduce or control such hazard.

This Baseline Risk Assessment and the steps identified will be the basis or point of departure for the Health and Safety Plan. The Health and Safety Plan shall include documented 'Methods of Statement' detailing the key activities to be performed in order to reduce as far as practicable, the hazards identified in the Risk Assessment.

Every effort has been made to ensure that this specification document is adequate in all respects. Should it however, contain any errors or omissions they may not be considered as grounds for claims under the contract for

additional reimbursement or extension of time, or relieve the Principal Contractor from his responsibilities and accountability in respect of the project to which this specification document pertains. Any such inaccuracies, inconsistencies and/or inadequacies must immediately be brought to the attention of the engineer.

1.2 PURPOSE OF THE CONSTRUCTION HEALTH AND SAFETY SPECIFICATION

City of Cape Town, Electricity Generation is obligated to implement measures to ensure the health and safety of all people and properties affected under its custodianship or contractual commitments, and is further obligated to monitor that these measures are structured and applied according to the requirements of these Health and Safety Specifications. ***(All references to the singular shall also be regarded as references to the plural)***

The purpose of this specification document is to provide the relevant Principal Contractor (and his /her contractor/s) with any information other than the standard conditions pertaining to construction sites which might affect the health and safety of persons at work and the health and safety of persons in connection with the use of plant and machinery; and to protect persons other than persons at work against hazards to health and safety arising out of or in connection with the activities of persons at work during the carrying out of construction work for the City of Cape Town, Generation department. The Principal Contractor (and his /her contractor) is to be briefed on the significant health and safety aspects of the project and to be provided with information and requirements on inter alia:

- a) Safety considerations affecting the site of the "INSPECTION, SERVICE AND REPAIR OF THE WATERBORNE FIRE PROTECTION SYSTEM AT STEENBRAS, ATHLONE AND ROGGEBAAI POWER STATIONS" project and its environment;
- b) Health and safety aspects of the associated structures and equipment;
- c) Submissions on health and safety matters required from the Principal Contractor (and his /her contractor); and
- d) The Principal Contractor's (and his /her contractor) health & safety plan.

To ensure that the Principal Contractor (and his /her contractor) is fully aware of what is expected from him/her with regard to the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993) and the Regulations made there-under including the applicable safety standards, and in particular in terms of Section 8 of the Act.

To inform the Principal Contractor that the Occupational Health and Safety Act, 1993 (Act 85 of 1993) in its entirety shall apply to the contract to which this specification applies. The Construction Regulations promulgated in February 2014 and incorporated into the above Act, published in the Government Gazette; shall apply to any person involved in construction work pertaining to this project, as will the Act.

HEALTH AND SAFETY SPECIFICATION (SECTION 5 (1), (b) of the Construction Regulation

2.1 SCOPE

The Health and Safety Specifications pertaining to the "INSPECTION, SERVICE AND REPAIR OF THE WATERBORNE FIRE PROTECTION SYSTEM AT STEENBRAS, ATHLONE AND ROGGEBAAI POWER STATIONS" project, cover the subjects contained in the index and is intended to outline the normal as well as any special requirements of the Client pertaining to the health and safety matters (including the environment) applicable to the project in question. These Specifications should be read in conjunction with the Act, the Construction Regulations and all other Regulations and Safety Standards which were or will be promulgated under the Act or incorporated into the Act and be in force or come into force during the effective duration of the project.

The stipulations in this specification, as well as those contained in all other documentation pertaining to the project, including contract documentation and technical specifications shall not be interpreted, in any way whatsoever, to countermand or nullify any stipulation of the Act, Regulations and Safety Standards which are promulgated under, or incorporated into the Act.

2.1.1 PROVISION FOR HEALTH AND SAFETY COST (section 5 (1), (g) CR)

The Principal Contractor must make sufficient provision for the cost of Health and Safety measures during the service, construction and supply process as required by the Construction Regulation 5(g).

2.2 INTERPRETATIONS

2.2.1 APPLICATION

This specification is a compliance document drawn up in terms of the South African legislation and is therefore binding. It must be read in conjunction with the relevant legislation as noted previously.

2.2.2 DEFINITIONS

The definitions as listed in the Occupational Health and Safety Act 85/1993 and Construction Regulations (Feb 2014) shall apply.

"Purpose of the Act" –

To provide for the health and safety of persons at work and the health and safety of persons in connection with the use of plant and machinery; the protection of persons other than persons at work against hazards to health and safety arising out of or in connection with the activities of persons at work; to establish an advisory council for occupational health and safety; and to provide for matters connected therewith.

"Agent" –

means a competent person who acts as a representative for City of Cape Town, referred to as an "engineer" in this tender document;

"Client" – Generation, City of Cape Town

means any person for whom construction work is being performed;

“Construction Work” means any work in connection with –

(a) the construction, erection, alteration, renovation, repair, demolition or dismantling of or addition to a building or any similar structure; or

(b) the construction, erection, maintenance, demolition or dismantling of any bridge, dam, canal, road, railway, runway, sewer or water reticulation system; or the moving of earth, clearing of land, the making of an excavation, piling, or any similar civil engineering structure or type of work;

“Contractor” – means an employer who performs construction work;

“Health and Safety File” – SHE File

means a file, or other record in permanent form, containing the information required as contemplated in the regulations;

“Health and Safety Plan” –

means a site, activity or project specific documented plan in accordance with the client's health and safety specification;

“Health and Safety Specification” –

means a site, activity or project specific document prepared by the client pertaining to all health and safety requirements related to construction work;

“Method Statement” –

means a document detailing the key activities to be performed in order to reduce as reasonably as practicable the hazards identified in any risk assessment;

“Principal Contractor” –

means an employer appointed by the client to perform construction work;

“Risk Assessment” –

means a program to determine any risk associated with any hazard at a construction site, in order to identify the steps needed to be taken to remove, reduce or control such hazard.

“Competent” –

means a person who – (a) has in respect to the work or task to be performed the required knowledge, training and experience and, where applicable, qualifications specific to the work or task: Provided that where appropriate qualifications and training are registered in terms of the provisions of the National Qualifications Framework Act 2000 (Act No. 67 of 2000), those qualifications and that training must be regarded as the required qualification and training, and (b) is familiar with the Act and with the applicable regulations made under the act;

2.3 MINIMUM ADMINISTRATIVE REQUIREMENTS

2.3.1 ASSIGNMENT OF CONTRACTOR'S RESPONSIBLE PERSONS TO SUPERVISE HEALTH AND SAFETY ON SITE

The Principal Contractor shall submit supervisory appointments as well as any relevant Appointments in writing (as stipulated by the OHS&A and Construction Regulations), prior to commencement of work. Proof of competency must be included.

2.3.2 COMPETENCY FOR CONTRACTOR'S APPOINTED COMPETENT PERSON

The Principal Contractors' competent persons for the various risk management portfolios shall fulfill the criteria as stipulated under the definition of Competent in accordance with the Construction Regulations (Feb 2014). Proof of competence for the various appointments must be included.

2.3.3 COMPENSATION OF OCCUPATIONAL INJURIES AND DISEASES ACT 130 OF 1993 (COIDA)

The Principal Contractor shall submit a letter of good standing from their Compensation Insurer-FEM or Compensation Commissioner with the tender offer as proof of registration. Sub-Contractors shall submit proof of registration to the Principal Contractor before they commence work on site.

2.3.5 OCCUPATIONAL HEALTH AND SAFETY POLICY

The Principal Contractor and their Sub-Contractors shall submit a Health and Safety policy signed by their Chief Executive Officer or MD. The Policy must outline objectives and how they will be achieved and implemented by the Company / Contractors.

2.3.6 HEALTH AND SAFETY ORGANOGRAM

The Principal Contractor and their Contractors shall submit an organogram, outlining the Health and Safety Site Management Structure including the relevant appointments / competent persons. In cases where appointments have not been made, the organogram shall reflect the intended positions. The organogram shall be updated when there are any changes in the site Management Structure.

2.3.7 PRELIMINARY HAZARD IDENTIFICATION AND BASELINE RISK ASSESSMENT AND PROGRESS HAZARD IDENTIFICATION AND RISK ASSESSMENT

The Principal Contractor to develop initial Risk Assessments & Method Statement by competent person of the risk that they foresee during construction. CR 9 (1)

The following is a site specific source of risk that has been identified, and MUST as a minimum be appropriately addressed by the Principal Contractor in their Health & Safety Plan with Control Measures:

- **Public/Staff safety**

- Effect of Construction/ service Work on or nearby power station visitors and staff
- **Traffic management of all vehicles and plant on site**
 - Process to control vehicles on site / Vehicle Access to Site
 - Material/equipment delivery
- **Stacking and Storage**
 - Stacking and storage of material and equipment
- **Night work**
 - Prior arrangement working hours
- **Site Establishment**
 - Secure/Safe Storage of Material, Plant & Equipment
 - Ablutions
 - Dealing with existing structures
- **Boundary & Access Control**
 - Public Liability / Access Control
 - Work Area/Site needs to be Properly Demarcated
 - Relevant Warning Signage
- **Ladders and Fall Risks**
 - Principal Contractors to compile a Site Specific Fall Protection plan in Line with CR 10.
 - Compliance to Environmental Regulations for Workplaces 6(3)
- **Dismantling Work**
 - Competency of Team
 - Method Statement/Risk Assessments
- **Working in close proximity to existing services.**
 - Electrical Cables, Telkom and water services etc.
- **Manual and Mechanical Handling**
- **Protection of Storm Water System**
 - Method to prevent Run Off into Storm Water System
 - Compliance to the NEMA (National Environmental Management Act)
- **Waste Management System**
 - To be Properly Fenced Off
 - Compliance to Construction Regulation 27 (Housekeeping)
- **Safe Use of Portable Electrical Equipment**
 - Electrical Drilling Machine
 - Angle Grinder
 - High Pressure Equipment
 - Welding Equipment
 - Small Plant
 - Any Other Equipment used by Principal Contractor
 - Jigsaws / circular saws and cutting equipment
- **Noise & Dust**
 - Principal Contractor to compile a Method Statement to reduce Noise Levels and also the Action Plan to minimize dust exposure.
- **Safe Use of hand tools**
 - Hammers, brooms and other hand tools

o

Working around public and other contractor's/ Housing projects

- o Plan to include working around other projects and principal contractors on site.

• Asbestos containing materials

- o Other projects on site include Asbestos Risks and Asbestos removal (out of bounds areas)

Principal Contractor to ensure that these risk assessments, as well as other risks identified by them, are updated monthly or as the risk changes and communicated to all relevant parties – CR 9

2.3.8 HEALTH AND SAFETY FILE (HSF)

The Principal contractor/s must, in terms of CR 7 (1) (b), maintain the HSF on site at all times. The HSF is a file with permanent records containing information on aspects of the construction project – which will be necessary to ensure the health and safety of any person who may be affected by the construction work. The HSF must include all documentation required in terms of the Act and Regulations and must also include a list of all Contractors on site that are accountable to the Principal Contractor and the 37 (2) Mandatory Agreements between the parties and details of work being done.

The Principal Contractor shall appoint a suitably qualified person to prepare the HSF and to keep it up to date for the duration of the contract.

The HSF shall include at least the following information: (Minimum requirements attached)

- a) Notification of Construction Work (CR 4.)
- b) Copy of OHSA (updated) GAR 4.)
- c) Proof of Registration and good standing with a COIDA Insurer (CR 7 (1), (iv) (The Principal Contractors shall submit a letter of good standing with the compensation Insurer, at the tender stage).
- d) OHS Plan agreed with by the client including the underpinning Risk Assessment/s & Method Statements.
- e) Designs/drawings CR 7 1 (e).
- f) A list of Contractors (Sub-Contractors) including copies of the agreements between the parties and the type of work being done by each Contractor (CR 7).
- g) Appointments/Designation forms as per Administrative & Legal Requirements (in writing)
- h) Registers as per Administrative & Legal Requirements.

The HSF shall be handed over to City of Cape Town Generation department {CR 7 (1), (e)} on completion of the contract. It must contain all the documentation as set out above, or as instructed, as well as any handed to the Principal Contractor by any sub-contractors together with a record of all

drawings, designs, materials used and other similar information concerning the completed project.

2.3.9 SITE HEALTH AND SAFETY RULES

The Principal Contractor must develop a set of Site Specific Health and Safety Rules that will be applied to regulate the Health and Safety Aspects on site.

Security and Access control must be included in the rules and non-employees will not be allowed on site unaccompanied.

2.3.10 HEALTH AND SAFETY REPRESENTATIVE(S)

The Principal Contractor and their Contractors shall ensure that Health and Safety Representative(s) are appointed under consultation and trained to carry out their function. The appointment must be in writing. The Health and Safety Representative shall carry out regular inspections, keep records and report all findings to the Responsible Person forthwith and at the monthly Health and Safety meetings. This must be part of the monthly audits and inspections.

2.3.11 HEALTH AND SAFETY COMMITTEES

Principal Contractor shall organize monthly Health & Safety meetings if more than 20 employees on site, minutes and records shall be kept. Principal Contractors Health & Safety representative and responsible person shall attend this meeting. All sub-contractor's representative and management representatives must attend these meetings.

2.3.12 HEALTH AND SAFETY TRAINING

2.3.12.1 INDUCTION

Principal Contractor shall ensure that all undergo site-specific induction presented by a competent person and proof of it to be placed on file prior to them starting on site as required by Construction Regulations.

2.3.12.2 AWARENESS TRAINING SESSIONS

The Principal Contractor shall ensure that, on site, periodic toolbox talks take place **at least once per week**. These talks should deal with risks relevant to the construction work at hand. A record of attendance shall be kept in the Health and Safety file. All Principal Contractors have to comply with this minimum requirement.

2.3.12.3 COMPETENCY

All Competent persons shall have the knowledge, experience, training and qualifications specific to the work they have been appointed to supervise, control, and carry out. This will have to be assessed on regular bases e.g. periodic audits by the Power Station's Health and Safety Agent, progress meetings, etc. The Principal Contractor is responsible to ensure that

competent Contractors are appointed in writing to carry out construction work.

In accordance with the Construction Regulation the Principal Contractor shall appoint, in writing, competent persons (in addition to the Construction Supervisor – CR 8.7 & Assistant construction Supervisor/s – CR 8.8) responsible for supervising construction work for the following work situations that may be expected on the site of the works, as applicable to the project.

A competent person may be appointed for more than one part of the construction work with the understanding that the person must be suitably qualified and able to supervise at the same time the construction work on all the work situations for which he has been appointed.

The appointment of competent persons to supervise parts of the construction work does not relieve the Principal Contractor from any of his responsibilities to comply with all requirements of the Construction Regulation.

2.3.13 GENERAL RECORD KEEPING

The Principal Contractor and their Sub-Contractors shall keep and maintain Health and Safety records to demonstrate compliance with this Specification, with the OHS Act 85/1993, and with the Construction Regulations (Feb 2014).

The Principal Contractor shall ensure that all records of incidents / accidents, emergency procedures training, inspections, audits, etc. are kept in a Health and Safety file held in the site office. The Principal Contractor must ensure that every sub-Contractor keeps its own Health and Safety File, maintains the file and makes it available on request (the file must include the sub-Contractor's health and safety plan). These records are crucial for inclusion in the Principal Contractors' consolidated health and safety file for handover to the Power Station on completion of construction work.

2.3.14 HEALTH AND SAFETY AUDITS, MONITORING AND REPORTING

Electricity Generation's Health and Safety Agent shall conduct monthly Health and Safety audits of the work. Operations including a full audit of physical site activities as well as an audit of the administration of Health and Safety.

The Principal Contractor is obligated to conduct similar audits on their Contractors.

Detailed reports of the audit finding and results shall be reported on at all levels of project management meetings / forums. Copies of the Client audit reports shall be kept in the Primary Project Health and Safety File, while the Principal Contractor audit reports shall be kept in their file, a copy being forwarded to the Client. Principal Contractors have to audit their contractors, and keep records of these audits in their Health and Safety files, available on request.

2.3.15 EMERGENCY PROCEDURES

The Principal Contractor shall adhere to Steenbras, Athlone and Roggebaai Power Station's Evacuation Plan with assemble point and contact details in case of any emergency.

The Principal contractor/s shall submit a detailed Emergency Procedure for approval by the Client prior to commencement on site. The procedure shall detail the response plan including the following key elements:

- List of key competent personnel
- Details of emergency services
- Actions or steps to be taken in the event of the specific types of emergencies
- Information on hazardous material/situations

Emergency procedures shall include, but not be limited to, fire, spills, accidents to employees, use of hazardous substances, bomb threats, major incidents/accidents, etc. The Principal Contractor shall advise Power Station's agent, engineer and all relevant authorities forthwith, of any emergencies, together with a record of action taken. This shall be confirmed in writing as soon as possible after the incident. A contact list of all service providers (Fire Department, Ambulance, Police, Medical, and Hospital, etc.) must be maintained and available to site personnel. These procedures shall form part of the OHS Plan.

2.3.16 FIRST AID BOXES AND FIRST AID EQUIPMENT

The Principal Contractor and their Contractors shall appoint in writing the First Aider(s). The appointed First Aider(s) are to be sent for accredited first aid training. Valid certificates are to be kept on site. All Principal Contractors with more than 5 employees shall supply their own first aid box. Principal Contractors shall have trained, certified first aider on site at all times and a First Aid box adequately stocked at all times due to the nature of work and Asbestos requirements.

2.3.17 ACCIDENT / INCIDENT REPORTING AND INVESTIGATION

- a) The Principal Contractor/s are responsible for the investigation of all accidents/incidents where employees and non-employees were injured to the extent that he/she/they had to be referred for medical treatment by a doctor, hospital or clinic. (GAR 9)
- b) The results of the investigation to be entered into the Accident/Incident Register (GAR 9)
- c) The Principal Contractor is responsible for the investigation of all non-injury incidents as described in Section 24 (1) (b) & (c) of the Act and keeping a record of the results of such investigations including the steps taken to prevent similar accidents in future.
- d) The Principal Contractor is responsible for the investigation of all road traffic accidents and keeping a record of the results of such investigations including the steps taken to prevent similar accidents in future.
- e) The Principal Contractor shall report any accidents or incidents to the Client and the Clients appointed OH&S Agent.

The Principal Contractor must report all injuries to Steenbras, Athlone and Roggebaai Power Station in the form of a spreadsheet, which includes all contractor injuries/incidents and man-hours worked for the month as well as the cumulative total. This report must be done on a monthly basis and must form part of the Principal Contractor's progress report.

2.3.18 HAZARDS AND POTENTIAL SITUATIONS

The Principal Contractor shall immediately notify Steenbras, Athlone and Roggebaai Power Station's Health and Safety Agent of any hazardous or potentially hazardous situations that may arise during the performance of construction activities.

2.3.19 PERSONAL PROTECTIVE EQUIPMENT (PPE) AND CLOTHING

The Principal Contractor shall ensure that all workers are issued and wear hard hats, protective footwear, safety vest, glasses, gloves and overalls. The Principal Contractor and their Sub-Contractors shall make provision and keep adequate quantities of SABS approved PPE on site at all times. When carrying out the Asbestos work, strict Asbestos regulations will apply and all the correct Asbestos PPE must be worn. (White suit, gloves, goggles, FFP2 mask, safety boots etc...).

2.3.20 OCCUPATIONAL HEALTH AND SAFETY SIGNAGE

The Principal Contractor shall provide adequate on-site OHS signage. Including but not limited to: "no unauthorized entry", "report to site office", "site office", "and hardhat area, Asbestos". Signage shall be posted up at all entrances to structures and buildings, scaffolding and other potential risk areas / operations.

2.3.21 CONTRACTORS

The Principal Contractor shall ensure that all Contractors appointed by them comply with this Specification, the OHS Act 85/1993, and Construction Regulation (Feb 2014).

The Principal Contractor may only appoint a sub-contractor after approving the sub-contractor's health & safety plan and SHE file. The Principal Contractor must audit each of its Contractors on a monthly basis, with audit reports filed in the health and safety file on site. The audit must include an administrative assessment as well as a physical inspection of the contractor's health and safety system.

The Principal Contractor must stop any Contractor from carrying out construction work that is not in accordance with the Principal Contractor's or Contractor's health and safety plan or if there is an immediate threat to the health and safety of persons.

The Principal Contractor shall take all reasonable steps necessary to ensure co-operation between all Contractors to enable each of those Contractors to comply with the provisions of these regulations;

The Principal Contractor must ensure that their Contractor is registered and in good standing with a recognized compensation fund or with a licensed compensation insurer prior to work commencing on site; The Principal Contractor must ensure that potential Contractors submitting tenders have made provision for the cost of health and safety measures during the construction process; The Principal Contractors shall discuss and negotiate with their Contractor the contents of the health and safety plan and shall finally approve that plan for implementation.

2.3.22 PENALTIES

Penalties may be imposed for ongoing non-compliance to the provisions of the Steenbras, Athlone and Roggebaai Power Station's Health and Safety specification and Principal Contractors' Health and Safety Plans. The penalty procedure shall consist of a written warning with a compliance time frame. **Failure to comply within the time frame stipulated would result in a R2000 penalty per non-compliance item per day that the non-compliance persists.**

2.3.23 HEALTH AND SAFETY OFFICER (CR 8.5 FULL TIME OR PART-TIME)

The Principal Contractor shall upon having considered the size of the "INSPECTION, SERVICE AND REPAIR OF THE WATERBORNE FIRE PROTECTION SYSTEM AT STEENBRAS, ATHLONE AND ROGGEBAAI POWER STATIONS" project, the degree of dangers likely to be encountered or the accumulation of hazards or risks on the site, appoint a full time or part-time construction Safety Officer in writing to assist, who must be competent in terms of the definition by the Construction Regulations. The Safety officer shall be responsible for safety related training, conducting internal inspections, conducting monthly sub-contractor audits with deviations recorded, shall form part of the risk assessment team that will compile job specific risk assessments, recording of safety meeting minutes, but not be limited to the above items.

2.3.24 PERMITS

- Permit to work system is applicable at the power station's
- The permit to work must be obtained from the power station representative(s) prior any work might commence

All permits must be kept in the site Health & Safety File.

2.4 PHYSICAL REQUIREMENTS

2.4.1 PUBLIC LIABILITY EXPOSURE

The Principal Contractor/shall safeguard members of the public (and their vehicles) and / or any other persons passing / entering the site from any construction activities. Safety measures shall include but not be limited to: Safety cones, barrier tape, nets, canopies, crushed decks and flagmen, hoarding & fencing etc. to comply with Section 9 of Occupational Health and Safety Act and Construction Regulation OF Feb 2104.

2.4.2 DEMOLITION WORK

The Principal Contractor shall appoint a competent person in writing to supervise and control all demolition work on site.

Prior to any demolition work being carried out, the Principal Contractor shall submit a safe working procedure and a detailed engineering survey for approval by Steenbras, Athlone and Roggebbaai Power Stations. Acceptance will then be issued to the Principal Contractor to proceed with the demolition work. The Principal Contractor shall ensure that demolition work complies with the Construction Regulations section 14 (Feb 2014). Principal Contractor to ensure that:

- Work should be carried out by competent operatives experienced in demolition work under the control of an experienced, competent supervisor.
- Restricted areas and safe distances should be established.

- All services should be disconnected prior to demolition.
- Adequate precautions against accidental collapse of the structure or adjacent structures should be in place.
- Measures should be taken to protect the public, e.g. 2m high fence, debris fans, etc.
- Any possible hazardous materials, such as asbestos to be disposed as per Regulations.
- Floors should not be overloaded.
- All plant and equipment should be suitable for the task, well maintained, inspected and tested in accordance with legislation.
- Work at heights should be minimized.
- Measures should be taken to protect persons working at height, e.g. working platforms, harness, nets, etc.
 - Appropriate personal protective equipment (PPE) should be worn.

2.4.3 REMOVAL OF RUBBLE & DEBRIS

The Principal Contractor must ensure the safe removal of debris and rubble from all levels where demolition occurs. A safe work procedure or method statement detailing the removal process and steps to be taken to contain the debris and rubble, must be drafted and placed in the Health & Safety File.

2.4.4 FALL PROTECTION PLAN / WORKING AT A FALL RISK / TRENCHING AND EXCAVATION

All fall risk work must be conducted in accordance with Construction Regulation 10. An initial fall protection plan must be prepared by a competent person who should evaluate, revise and amend the plan when necessary. The plan must include the following:

- How the fall risk work was planned?
- That the fall risk workers are competent (trained, experienced, knowledgeable);
- That the work is carried during inclement weather or where conditions are hazardous to workers.
- That fragile areas are demarcated and sign posted;
- That suitable platforms are provided where fragile areas exist;

That there are suitable and sufficient guardrails or barriers or other similar means of protection to prevent the fall of any person, material or equipment off of or into any height or whole and trench or excavation.

2.4.5 EXISTING STRUCTURES

Any structures that may be affected by work must be considered in the planning process. Precautionary measures must be detailed and applied to prevent damage, uncontrolled collapse of existing structures, and/or loss to property and persons during the entire construction phase.

2.4.6 EDGE PROTECTION AND PENETRATIONS

The Principal Contractor must ensure that all exposed edges and openings are guarded and demarcated at all times until permanent protection has been erected. The Principal Contractors' risk assessment must include these items. E.g. finished floor slab edges, floor penetrations, and all other openings and areas where a person may fall.

2.4.7 HAZARDOUS CHEMICAL SUBSTANCES (HCS)

The Principal Contractor working with Hazardous chemical substances to obtain copies of all the (MSDS) Material Safety Data Sheets and this to be kept on site and a copy to be forwarded to Steenbras, Athlone and Roggebaai Power Station's Health and Safety Agent.

2.4.8 STACKING OF MATERIAL

The Principal Contractor shall ensure that there are sufficient appointed stacking supervisors and all materials and equipment are stacked and stored safely. Double handling of material should be avoided and for this purpose, pallets and other stacking options should be used.

Stacking of material on existing decks should be planned and the decks must not be overloaded. The Contractor should liaise with the Principal Contractor before offloading any material/equipment.

2.4.9 PUBLIC AND SITE VISITOR HEALTH AND SAFETY

The Principal Contractor shall ensure that every person working on or visiting the site, as well as the public in general, shall be made aware of the dangers likely to arise from site activities, including the precautions to be taken to avoid or minimize those dangers. Appropriate Health and Safety notices and signs shall be posted up, but shall not be the only measure taken. The Principal Contractor has a duty in terms of the OHS Act 85/1993 Section 9 to do all that is reasonably practicable to prevent members of the public and site visitors from being affected by the construction activities.

The Principal Contractor must allow for the safe diversion of pedestrians and vehicle traffic so as to ensure the safety of the public at all times. The Principal Contractor must also take all necessary steps to prevent injury or ill health to the general Public as prescribed by Section 9 of the OHS Act 85/1993.

The Principal Contractor must make provision for adequate site hoarding in the form of wooden timber board to minimize risk and impose dust control. Should external scaffolding and other external work be carried out in elevated positions, where the public may be affected; aprons/fans and sheeted scaffolds will be required, preventing any material/objects from injuring the public.

Site visitors must be briefed on the hazards and risks they may be exposed to and what measures are in place or should be taken to control these hazards and risks. A record of these inductions must be kept on site in accordance with the Construction Regulations. Principal Contractor is to ensure that no

unauthorized employees enter the construction area by implementing security control measures/registers and site to be sufficiently fenced off.

2.4.10 NIGHT WORK

Adequate lighting to be provided where required. Personnel should not work alone at night. All night work to be done under supervision and a working permit to be issued by Principal Contractor in liaison with Steenbras Power Station. (To be avoided if possible)

2.5 PLANT AND MACHINERY

2.5.1 PRESSURE EQUIPMENT (PER) AND GAS BOTTLES

The Principal Contractor shall comply with the Vessels under Pressure Regulations, including:

- Providing competency and awareness training to the operators,
- Providing PPE or clothing,
- Inspect Equipment regularly and keep record of inspections,
- Providing appropriate firefighting equipment (Fire Extinguishers) on hand.

2.5.2 FIRE EXTINGUISHERS AND FIRE FIGHTING EQUIPMENT

The Principal Contractor shall provide adequate, regularly serviced fire-fighting equipment located at strategic points on site, specific to the classes of fire likely to occur. The appropriate notices and signs must be posted up as required.

2.5.3 HIRED PLANT AND MACHINERY

The Principal Contractor shall ensure that any hired plant and machinery used on site is safe for use. The necessary requirements as stipulated by the OHS Act 85/1993 and Construction Regulations (Feb 2014) shall apply.

The Contractor shall ensure that operators hired with machinery are competent and that certificates are kept on site in the Health and Safety file. All relevant Contractors must ensure the same.

2.5.4 GENERAL MACHINERY

The Principal Contractor shall ensure compliance with the Driven Machinery Regulations, which include inspecting machinery regularly, appointing a competent person to inspect and ensure maintenance, issuing PPE or clothing, and training those who operate machinery.

2.5.5 PORTABLE ELECTRICAL TOOLS

The Principal Contractor shall ensure that use and storage of all explosive powered tools and portable electrical tools are in compliance with relevant legislation.

The Contractor shall ensure that all electrical tools, electrical distribution boards, extension leads, and plugs are kept in safe working order. Regular inspections and toolbox talks must be conducted to make workers aware of the dangers and control measures to be implemented e.g. Personal protection equipment, guards, etc.

A competent person to undertake routine inspections and records are kept. Only authorized trained persons are to use the tools, the safe work procedures to apply. Awareness training to be carried out and compliance enforced at all times, and PPE and clothing are provided and maintained.

2.5.6 WELDING EQUIPMENT

- Only authorized / trained persons to use the equipment.
- Welder using correct PPE – eye/face/foot/body/respirator.
- Flashback arrestors fitted at cylinders and gauges when using gas welding equipment.
- Fire prevention methods to be applied.
- Where electric arc welders are used, equipment only to be used in a dry area, protected from wetness.

2.5.7 LIFTING MACHINES AND TACKLE

The Principal Contractor and all Contractors shall ensure that lifting machinery and tackle is inspected before use and thereafter in accordance with the Driven Machinery Regulations and the Construction Regulations (section 20). There must be competent lifting machinery and lifting tackle inspectors who must inspect the equipment daily or before use taking into account that:

- All lifting machinery and tackle must carry a load test certificate and must have an inspector register.
- All lifting machinery and tackle has a safe working load clearly indicated
- Regular inspection and servicing is carried out
- Records are kept of inspections and of service certificates
- There is proper supervision in terms of guiding the loads that includes a trained banks man to direct lifting operations and check lifting tackle
- The tower crane bases have been approved by an engineer

The operators are competent as well as physically and psychologically fit to work and in possession of a medical certificate of fitness to be available on site.

2.5.8 HAND TOOLS

The Principal Contractor and sub-contractor shall ensure that use of all hand tools are in compliance with relevant legislation. Safe work procedures will apply and compliance is to be enforced at all times, and PPE and clothing are provided and maintained.

All the hand tools shall be recorded in the Hand Tool Register, kept in the Health & Safety File. A competent person shall undertake routine inspections of the hand tools to ensure that they are all kept in top condition.

2.6 OCCUPATIONAL HEALTH

2.6.1 OCCUPATIONAL HYGIENE

Exposure of workers to occupation health hazards and risks is very common in any work environment, especially in construction. Occupational exposure is a major problem and the Principal Contractor must ensure that proper health and hygiene measures are put in place to prevent exposure to these hazards. The Risks to be looked at includes:

Ventilation

Adequate ventilation / extraction / exhausting in hazardous areas e.g. chemicals / adhesives / welding / petrol or diesel / motors running and in confined spaces / basements.

Noise

Tasks identified where noise exceeds 85 dBa.

All reasonable steps are to be taken to reduce noise levels at the source.

Hearing protection is to be used where noise levels cannot be reduced to below 85 dB.

No noise work to take place after 6pm.

Dust/soot

Principal Contractor to ensure that employees working with grinders, saws & jackhammers, etc. are issued with dust masks and dust exposure to be minimized at all times.

Working area to be fully cladded with a hundred percent shade cloth to minimize the dust exposure.

2.6.2 WELFARE FACILITIES

The Principal Contractor will provide ablution facilities (one for every 30 employees) for all on site, including changing facilities & hand washing facilities. Safe and adequate drinking water will be provided. Waste bins must be strategically placed and emptied regularly. Safe and clean storage areas must be provided for workers to store personal belongings and personal protective equipment.

2.6.3 ALCOHOL AND OTHER DRUGS

The Principal Contractor must ensure that no alcohol and other drugs will be allowed on site. No person may be under the influence of alcohol or any other drugs while on the construction site. Any person on prescription drugs must inform his/her superior, who shall in turn report this to the Principal Contractor forthwith. Any person suffering from any illness / condition that may have a negative effect on his/her safety performance must report this to

his/her superior, who shall in turn report this to the Principal Contractor forthwith.

Any person suspected of being under the influence of alcohol or other drugs must be sent home immediately, to report back the next day for a preliminary inquiry. The Contractor concerned must follow a full disciplinary procedure and a copy of the disciplinary action must be forwarded to the Principal Contractor for his records.

3. WAYLEAVES, PERMISSIONS AND PERMITS

3.1 General

The Contractor shall be responsible for obtaining all of the necessary wayleaves, permissions or permits applicable to working near any existing services or other infrastructure on Site, and shall ensure that any wayleaves, permissions or permits obtained by the Employer's Agent prior to the award of the contract are transferred into the Contractor's name.

The Contractor shall abide by any conditions imposed by such wayleaves, permissions or permits.

The Contractor shall ensure that all wayleaves, permissions and permits are kept on site and are available for inspection by the relevant service authorities on demand.

The Contractor shall also ensure that any wayleaves in respect of electricity services are renewed timeously every three months.

3.2 Entry to Steenbras, Athlone and Roggebaai Power Stations

A permit for entry to Steenbras, Athlone and Roggebaai Power Stations is not required; however, all persons entering the stations must report to and sign in at the entrance gate at the station.

4. TRADE NAMES OR PROPRIETARY PRODUCTS

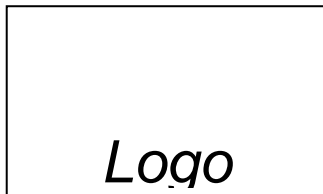
Bid specifications may not make any reference to any particular trade mark, name, patent, design, type, specific origin or producer, unless there is no other sufficiently precise or intelligible way of describing the characteristics of the work, in which case such reference must be accompanied by the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

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

5. EMPLOYMENT OF SECURITY PERSONNEL

All security staff employed by the supplier on behalf of the CCT or at any CCT property must be registered with Private Security Industry Regulatory Authority (PSiRA). Proof of such registration must be made available to the CCT's agent upon request.

Annexure E: Insurance Broker's Warranty



Letterhead of supplier's Insurance Broker

Date _____

CITY OF CAPE TOWN
City Manager
Civic Centre
12 Hertzog Boulevard
Cape Town
8000

Dear Sir

Contract NO.: **41S/2020/21**

TENDER DESCRIPTION: **: INSPECTION, SERVICE AND REPAIR OF THE WATERBORNE FIRE PROTECTION SYSTEM AT STEENBRAS, ATHLONE AND ROGGEBAAI POWER STATIONS**

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 CITY OF CAPE TOWN with regard to the abovementioned contract, and that all the insurances and endorsements, etc., are all in accordance with the requirements of the contract.

I furthermore confirm that all premiums in the above regard have been paid.

Yours faithfully

Signed: _____

For: _____ (Supplier's Insurance Broker)

Annexure F: Occupational Health and Safety Agreement

AGREEMENT MADE AND ENTERED INTO BETWEEN THE CITY OF CAPE TOWN (HEREINAFTER CALLED THE "CCT") AND

..... ,
(Supplier/Mandatarly/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, 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 (OHSA) and the Regulations promulgated thereunder.

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

COID ACT Registration Number:

OR Compensation Insurer: Policy No.:

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

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

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

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

Signed aton the.....day of.....20....

Witness

Mandatarly

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

Witness

for and on behalf of
City of Cape Town