AIRPORTS COMPANY SOUTH AFRICA (SOC)

SCM REFERENCE NR: CTIA8137/2026/RFP

Appointment of an Electrical Contractor for Preventative and Corrective Maintenance on Power Reticulation Network (MV & LV) at Cape Town International Airport for a Period of 5 years

NEC 3: TERM SERVICE CONTRACT (TSC)

Between AIRPORTS COMPANY SOUTH AFRICA SOC LIMITED

Applicable at Cape Town International Airport

(Registration Number: 1993/004149/30)

and

(Registration Number : _____)

Contents: **No of pages**

VOLUME 2

NAME OF BIDDER: …….....

PART C1: AGREEMENT AND CONTRACT DATA

C1.1 Form of Offer and Acceptance

OFFER

The Employer, identified in the Acceptance signature block, has solicited offers to enter into a contract for the procurement for the **Preventative and Corrective Maintenance of Power Reticulation network (MV & LV) at Cape Town International Airport for a Period of 5 years**

By the representative of the contractor, deemed to be duly authorised, signing this part of this Form of Offer and Acceptance the contractor offers to perform all of the obligations and incur liabilities of the NEC TSC under the contract including compliance with all its terms and conditions according to their true intent and meaning for an amount to be determined in accordance with the *conditions of contract* identified in the Contract Data.

THE OFFERED TOTAL OF THE PRICES INCLUSIVE OF VAT IS:

The offered total of the Prices exclusive of VAT is	**R**
Value Added Tax @ 15% is	**R**
The offered total of the Prices inclusive of VAT is	**R**
In words	

PLEASE COMPLETE FULLY IN FIGURES AND IN WORDS

for the Contractor

Signature . . . . Date . . . .
Name . . . . Capacity . . . .

(Name and address of organisation) . . . .

Name and signature of witness . . . .

This offer may be accepted by the employer by signing the acceptance part of this form of offer and acceptance and returning one copy of this document to the tenderer before the end of the period of validity stated in the tender data, whereupon the tenderer becomes the party named as the contractor in the conditions of contract identified in the contract data.

Acceptance

By signing this part of this Form of Offer and Acceptance, the Employer identified below accepts the tenderer's Offer. In consideration thereof, the Employer shall pay the Contractor the amount due in accordance with the *conditions of contract* identified in the Contract Data or the Pricing Data. Acceptance of the contractor's Offer shall form an agreement between the Employer and the tenderer upon the terms and conditions contained in this agreement and in the contract that is the subject of this agreement.

The terms of the contract, are contained in:

Part C1	Agreements and Contract Data, (which includes this Form of Offer and Acceptance)
Part C2	Pricing Data
Part C3	Service Information
Part C4	Site Information

and drawings and documents (or parts thereof), which may be incorporated by reference into the above listed Parts.

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

The contractor shall within two weeks of 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.

Unless the tenderer (now Contractor**)** within five working days of the date of such receipt notifies the Employer in writing of any reason why he cannot accept the contents of this agreement, this agreement shall constitute a binding contract between the Parties.

for the Employer

Signature . . . . . Date . . . .

Name . . . . . Capacity . . . . . .

Administrator Office, Southern Office Block
Private Bag X9002
Cape Town International, Western Cape
South Africa, 7525

Name and signature of witness . . . . . Date . . . . . .

Schedule of Deviations

1 Subject . . . . . .

Details . . . . . .

. . . . . .

. . . . . .

. . . . . .

2 Subject . . . . . .

Details . . . . . .

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3 Subject . . . . . .

Details . . . . . .

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4 Subject . . . . . .

Details . . . . . .

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5 Subject . . . . . .

Details . . . . . .

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By the duly authorised representatives signing this agreement, the Employer and the tenderer agree to and accept the foregoing schedule of deviations as the only deviations from and amendments to the documents listed in the Tender Data and addenda thereto as listed in the returnable schedules, as well as any confirmation, clarification or changes to the terms of the offer agreed by the tenderer and the Employer during this process of offer and acceptance.

It is expressly agreed that no other matter whether in writing, oral communication or implied during the period between the issue of the tender documents and the receipt by the tenderer of a completed signed copy of this Agreement shall have any meaning or effect in the contract between the parties arising from this agreement.

Signature(s)

Name(s)

Capacity

For the employer:

(Insert name and address of organisation)

Name & signature of witness

Date

Signature(s)

Name(s)

Capacity

For the tenderer:

(Insert name and address of organisation)

Name & signature of witness

Date

C1.3 TSC3 Contract Data

Part one - Data provided by the *Employer*

Clause	Statement	Data
1	**General**	
	The *conditions of contract* are the core clauses and the clauses for main Option:	
		B: **Priced contract with price list**
	dispute resolution Option	**W1:** **Dispute resolution procedure**
	and secondary Options	
		X1: **Price adjustment for inflation**
		X2 **Changes in the law**
		X18: **Limitation of liability**
		Z: ***Additional conditions of contract***
	of the NEC3 Term Service Contract (April 2013)[1]	
10.1	The *Employer* is (name):	**Airports Company South Africa SOC Limited a juristic person incorporated in terms of the company laws of the Republic of South Africa**
	Address	**Administrator Office, Southern Office Block, Western Cape, South Africa, 7525. Private Bag X9002, Cape Town International, Western Cape, South Africa, 7525.**
	Tel No.	**021 937 1200**
	Fax No.	**N/A**
10.1	The *Service Manager* is (name):	**Nkosinathi Khumalo**
	Address	**Private Bag X9002, Cape Town International, Western Cape, South Africa, 7525.**
	Tel	**021 935 3929**
	Fax	**N/A**

	e-mail	
11.2(2)	The Affected Property is	**Cape Town International Airport (All Building Owned by ACSA)**
11.2(13)	The *service* is	**MV&LV Electrical Network Maintenance contract at CTIA as set out in part C3 service information**
11.2(14)	The following matters will be included in the Risk Register	**Working on Airside: High noise levels** **Electricity Live line work up to 11kV** **Working on height** **Mobile Elevated lift equipment**
11.2(15)	The Service Information is in	**Part C3: Employer's Service Information and all documents and drawings and other specifications to which it makes reference**
12.2	The *law of the contract* is the law of	**the Republic of South Africa**
13.1	The *language of this contract* is	**English**
13.3	The *period for reply* is	**2 weeks**
2	The *Contractor*'s main responsibilities	Detailed in Part C3 (Service Information)
21.1	The *Contractor* submits a first plan for acceptance within	**4 weeks of the Contract Date**
3	Time	
30.1	The *starting date* is	**Upon contract signing by ACSA**
30.1	The *service period* is	**60 months from the starting date**
4	Testing and defects	No data is required for this section of the conditions of contract
5	Payment	
50.1	The *assessment interval* is	**Four (4) weeks (not more than five)**
51.1	The *currency of this contract* is the	**South African Rand (ZAR)**
51.2	The period within which payments are made is	**30 days**
6	Compensation events	**No data is required for this section of the condition of contract**
7	Use of Equipment Plant and Materials	No data is required for this section of the conditions of the contract

8	Risks and insurance	See attached annexure C.
9	Termination	No data required for this section of the conditions of the contract

10 Data for main Option clause

A	**Priced contract with price list**

11 Data for Option W1

W1.1	**The *Adjudicator* is: (refer to clause Z19.1 for the list of adjudicators)**	
W1.2(3)	The *Adjudicator nominating body* is:	The current Chairman of Johannesburg Advocate's Bar Council.
W1.4(2)	The *tribunal* is:	**Arbitration**
W1.4(5)	The *arbitration procedure* is	**the latest edition of Rules for the Conduct of Arbitrations published by The Association of Arbitrators (Southern Africa) or its successor body**
	The place where arbitration is to be held is	**Johannesburg, South Africa**
	The person or organisation who will choose an arbitrator:	**Chairman of the Johannesburg Advocate's Bar Council.**

12 Data for secondary Option clauses

X1	**Price adjustment for inflation**	
X1.1	The *base date* for indices is	**It will be limited to a maximum of CPI as at the anniversary date of the contract**

X2	**Changes in the law**	**There is no reference to Contract Data in this Option and terms in italics are identified elsewhere in this Contract Data.**
X18	**Limitation of liability**	
X18.1	The *Contractor*'s liability to the *Employer* for indirect or consequential loss is limited to	**Nil - Neither Party is liable to the other for any consequential or indirect loss, including but not limited to loss of profit, loss of income or loss of revenue**
X18.2	For any one event, the *Contractor*'s liability to the *Employer* for loss of or damage to the *Employer*'s property is limited to	**Total of the losses incurred and/or repairs to the damages caused.**
X18.3	The *Contractor*'s liability for Defects due to his design of an item of Equipment is limited to	Total of the losses incurred and/or repairs to the damages caused .
X18.4	The *Contractor*'s total liability to the *Employer*, for all matters arising under or in connection with this contract, other than the excluded matters, is limited to	**The excluded matters are amounts payable by the Contractor as stated in this contract for:** • **Loss of or damage to the Employer's property,** • **Defects liability,** • **Insurance liability to the extent of the Contractor's risks** • **death of or injury to a person;** **infringement of an intellectual property right**
Z	**The *additional conditions of contract* are**	

AMENDMENTS TO THE CORE CLAUSES

Z1 **Interpretation of the law**

Z1.1 **Add to core clause 12.3:** Any extension, concession, waiver, non-enforcement of any terms of the contract or relaxation of any action stated in this contract by the Parties, the *Service Manager*, the, or the *Adjudicator* does not constitute a waiver of rights, and does not give rise to an estoppel unless the Parties agree otherwise and confirm such agreement in writing.

Z2 **Providing the Service: Delete core clause 20.1 and replace with the following:**

Z2.1 The *Contractor* provides the *service* in accordance with the *Service* Information and warrants that the results of the *service*, when complete, shall be fit for their intended purpose.

Z3. **Other responsibilities: add the following at the end of core clause 27:**

Z3.1 The *Contractor* shall have satisfied himself, prior to the *starting date*, as to the completeness, sufficiency and accuracy of all information and drawings provided to him as at the *starting date* .

Z3.2 The *Contractor* shall be responsible for the correct setting out or carrying out of the *service* in

accordance with the original points, lines and levels stated in the *Service* Information or notified by the *Service Manager*,. Any errors in the setting or carrying out of the *service* shall be rectified by the *Contractor* at the *Contractor's* own costs.

Z4. **Termination**

Z4.1 **Add the following to core clause 91.1, at the second main bullet, fourth sub-bullet point, after the words "assets or":** "business rescue proceedings are initiated or steps are taken to initiate business rescue proceedings".

Z5. **Ambiguities and inconsistencies: Delete core clause 17 and replace with the following:**

Z5.1 If there is any ambiguity or inconsistency in or between the documents which are part of this contract, the priority of the documents is in accordance with the following sequence:

- The additional conditions of contract under these Z clauses
- The conditions of contract and
- The other documents.

Z5.2 The Service Manager or the Contractor notifies the other as soon as either becomes aware of any such ambiguity or inconsistency in or between the documents which are part of this contract. The Service Manager gives an instruction resolving the ambiguity or inconsistency. Notwithstanding any other provision of this contract, any such ambiguity, inconsistency and/or instruction does not automatically result in any increase to the Price List or any delay to the end of the service period.

Z6. **Payment: Add the following at the end of core clause 51:**

51.5 The Employer does not pay interest to the Contractor on a late payment resulting from the Contractor's failure to provide the Employer with a correctly rendered VAT invoice within the period stated in clause 51.1 above.

51.5 The Employer is entitled to deduct from or set off against any money due to the Contractor

- any sum due to the Employer from the Contractor or
- any amount for which the Contractor is liable to pay to the Employer (whether liquidated or otherwise) arising under this contract.

AMENDMENTS TO THE SECONDARY OPTION CLAUSES

Z7. **Changes in Law: Add the following clause to secondary option X2 as X2.2:**

Z7.1 A change in law is defined as:

Z7.1.1 the adoption, enactment, promulgation, coming into effect, repeal, amendment, reinterpretation, change in application or other modification after the starting date of any law, excluding (i) the promulgation of any bill, unless such bill is enacted into the *law of the country*, and (ii) any such modification in law relating to any taxes, charges, imposts, duties, levies or deductions that are assessed in relation to a person's income;

Z7.1.2 any permit being terminated, withdrawn, amended, modified or replaced, other than (i) in accordance with the terms upon which it was originally granted, (ii) as a result of the failure by the *Contractor* to comply with any condition set out therein, or (iii) as a result of any act or omission of the *Contractor*, any Subcontractor or any affiliate to the *Contractor*.

Z8. **Performance Bond: The following amendments are made to clause X13:**

Z8.1. **Add the following new clause as Option X13.2:** The *Contractor ensures* that the performance bond is valid and enforceable until the end of the *service period.* If the terms of the performance bond specify its expiry date and the end of the *service period* does not coincide with such expiry date, four weeks prior to the said expiry date, the *Contractor* extends the validity of the performance bond until the end of the *service period.* If the *Contractor* fails to so extend the validity of the performance bond, the *Employer* may claim the full amount of the performance bond and retain the proceeds as cash security

Z9. **Limitation of liability: Insert the following new clause as Option X18.6:**

Z8.1 The *Employer's* liability to the *Contractor* for the *Contractor's* indirect or consequential loss or damage of any kind is limited to R0.00.

Z8.2 Notwithstanding any other clause in this contract, any proceeds received from any insurances or any proceeds which would have been received from any insurances but for the conduct of the *Contractor* shall be excluded from the calculation of the limitations of liability listed in the contract.

ADDITIONAL Z CLAUSES

Z10. **Cession, delegation and assignment**

Z10.1. The *Contractor* shall not cede, delegate or assign any of its rights or obligations to any person without the written consent of the *Employer*, which consent shall not be unreasonably withheld. This clause shall be binding on the liquidator/business rescue practitioner /trustee (whether provisional or final) of the *Contractor*.

Z10.2. The *Employer* may, on written notice to the *Contractor*, cede and delegate its rights and obligations under this contract to any person or entity.

Z11. **Joint and several liability**

Z11.1. If the *Contractor* constitutes a joint venture, consortium or other unincorporated grouping of two or more persons, these persons are deemed to be jointly and severally liable to the *Employer* for the performance of this Contract.

Z11.2. The *Contractor* shall, within 1 week of the starting date, notify the *Service Manager* and the *Employer* of the key person who has the authority to bind the *Contractor* on its behalf.

Z11.3. The *Contractor* does not materially alter the composition of the joint venture, consortium or other unincorporated grouping of two or more persons without prior written consent of the *Employer*.

Z12. **Ethics**

Z12.1. The *Contractor* undertakes:

Z12.1.1. not to give any offer, payment, consideration, or benefit of any kind, which constitutes or could be construed as an illegal or corrupt practice, either directly or indirectly, as an inducement or reward for the award or in execution of this contract;

Z12.1.2. to comply with all laws, regulations or policies relating to the prevention and combating of bribery, corruption and money laundering to which it or the *Employer* is subject, including but not limited to the Prevention and Combating of Corrupt Activities Act, 12 of 2004.

Z12.2. The *Contractor*'s breach of this clause constitutes grounds for terminating the *Contractor*'s obligation to provide the service in accordance with the procedures stated P2, P3 or P4 in core clause 92.2 or taking any other action as appropriate against the *Contractor* (including civil or criminal action). However, lawful inducements and rewards shall not constitute grounds for termination.

Z12.3. If the *Contractor* is found guilty by a competent court, administrative or regulatory body of participating in illegal or corrupt practices, including but not limited to the making of offers (directly or indirectly), payments, gifts, gratuities, commission or benefits of any kind, which are in any way whatsoever in connection with the contract with the *Employer*, the *Employer* shall be entitled to terminate the contract in accordance with the procedures stated in core clause 92.2, the amount due on termination is A1.

Z13. Confidentiality

Z13.1. All information obtained in terms of this contract or arising from the implementation of this contract shall be treated as confidential by the *Contractor* and shall not be used or divulged or published to any person not being a party to this contract, without the prior written consent of the *Service Manager*, whose consent shall not be unreasonably withheld.

Z13.2. If the *Contractor* is uncertain about whether any such information is confidential, it is to be regarded as such until otherwise notified by the *Service Manager*.

Z13.3. This undertaking shall not apply to –

Z13.3.1. information disclosed to the employees of the *Contractor* for the purposes of the implementation of this contract. The *Contractor* undertakes to ensure that its employees are aware of the confidential nature of the information so disclosed and that they comply with the provisions of this clause;

Z13.3.2. information which the *Contractor* is required by law to disclose, provided that the *Contractor* notifies the *Employer* prior to disclosure so as to enable the *Employer* to take the appropriate action to protect such information. The *Contractor* may disclose such information only to the extent required by law and shall use reasonable efforts to obtain assurances that confidential treatment will be afforded to the information so disclosed;

Z13.3.3. information which at the time of disclosure or thereafter, without default on the part of the *Contractor*, enters the public domain or to information which was already in the possession of the *Contractor* at the time of disclosure (evidenced by written records in existence at that time);

Z13.4. The taking of images (whether photographs, video footage or otherwise) of the *services or Affected Property* or any portion thereof, in the course of providing the *services* or at the end of the service period requires the prior written consent of the *Service Manager*. All rights in and to all such images vests exclusively in the *Employer*.

Z13.5. The *Contractor* ensures that all his Subcontractors abide by the undertakings in this clause.

Z14. *Employer*'s Step-in rights

Z14.1. If the *Contractor* defaults by failing to comply with its obligations in terms of this contract and fails to remedy such default within 2 weeks of the notification of the default by the *Service Manager*, the *Employer*, without prejudice to its other rights, powers and remedies under the contract, or at law may remedy the default either, itself or procure a third party (including any subcontractor or supplier of the *Contractor*) to do so on its behalf. The reasonable costs of the Employer exercising its step-in rights in respect of any subcontractor or supplier of the *Contractor* shall be borne by the *Contractor*.

Z14.2. The *Contractor* co-operates with the *Employer* and facilitates and permits the use of all required information, materials and other matter (including but not limited to documents and all other drawings CAD materials, data, software, models, plans, designs, programs, diagrams, evaluations, materials specifications, schedules, reports, calculations, manuals or other documents or recorded information (electronic or otherwise) which have been or are at any time prepared by or on behalf of the *Contractor* under the contract or otherwise for and/or in connection with the *works*) and generally does all things required by the Service *Manager* to achieve this end.

Z15. Liens and Encumbrances

Z15.1. The *Contractor* keeps the Equipment used to provide the *service* free of all liens and other encumbrances at all times. The *Contractor,* vis-a-vis the *Employer,* waives all and any liens which he may from time to time have, or become entitled to over such Equipment and any part thereof and ensures that his Subcontractors similarly, vis-a-vis the *Employer,* waive all liens they may have or become entitled to over such Equipment from time to time

Z16. Intellectual Property

Z15.1 Intellectual Property ("IP") rights means all rights in and to any patent, design, copyright, trade mark, trade name, trade secret, other intellectual or industrial property rights, technical information and concepts, know-how, specifications, data, formulae, computer programs, memoranda, scripts, reports, manuals, diagrams, drawings, prototypes, drafts and any rights to them created during the performance of the service and include applications for and rights to obtain or use any such intellectual property whether under South African or foreign law.

Z15.2 IP rights remain vested in the originator and shall not be used for any reason whatsoever other than carrying out the *service.*

Z15.3 The *Contractor* gives the *Employer* an irrevocable, transferrable, non-exclusive, royalty free licence to use and copy all IP related to the *service* for the purposes of constructing, repairing, demolishing operating and maintaining the *service* or *the Affected Property*.

Z15.4 The written approval of the *Contractor* is to be obtained before the *Contractor*'s IP made available to any third party which approval will not be unreasonably withheld or delayed. Prior to making any *Contractor*'s IP available to any third party the *Employer* shall obtain a written confidentiality undertaking from any such third party on terms no less onerous than the terms the *Employer* would use to protect its IP.

Z15.5 The *Contractor* shall indemnify and hold the *Employer* harmless against and from any claim alleging an infringement of IP rights (**"the claim"**), which arises out of or in relation to:

Z15.5.1 the *Contractor's service*;

Z15.5.2 the use of the *Contractor's* Equipment, or

Z15.5.3 the proper use of the *Affected Property* on which the service is provided.

Z15.6 The *Employer* shall, at the request and cost of the *Contractor*, assist in contesting the claim and the *Contractor* may (at its cost) conduct negotiations for the settlement of the claim, and any litigation or arbitration which may arise from it.

Z17. Dispute resolution: The following amendments are made to Option W1:

Z16.1 **Under clause W1.3, in the fourth row of the first column of the adjudication table, the following words are added after the words "any other matter":** "excluding disputes relating to termination of the contract".

Z16.2 **The following clauses are added at the end of clause W1.3 as sub-clauses (12) and (13) respectively:**

Z16.2.1 "The Adjudicator shall decide the dispute solely on the written submissions of the parties. No oral submissions shall be heard during adjudication."

Z16.2.2 "Disputes relating to or arising from termination of the Contract shall not be determined by an adjudicator. Any such dispute shall be referred directly to the tribunal in accordance with the procedures set out in clause W1.4."

Z17 Day:

Z17.1 Any reference to a day in terms of this contract shall be construed as a calendar day.

Z18 Safety

Z18.1 The *Employer*, *Service Manager* or any of his nominated representatives may stop any unsafe *service*. The *Contractor* does not proceed with the relevant service until the safety violation is corrected. This instruction to stop or not to start the *service* is not a compensation event.

Z18.2 As stipulated by section 37(2) of the Occupational Health and Safety Act No. 85 of 1993 (**OHS Act)** as amended the Contractor agrees to the following:

Z18.2.1 As part of the contract the *Contractor* acknowledges that it is an Employer in its own right with duties as prescribed in the OHS Act, as amended and agrees to ensure that all work performed, or equipment and materials used, are in accordance with the provisions of the OHS Act.

Z18.2.2 The *Contractor* furthermore agrees to comply with the requirements set forth by the *Service Manager* and agree to liaise with the *Employer* should the *Contractor*, for whatever reason, be unable to perform in terms of the clause Z18.

Z18.3 The *Contractor* acknowledges that it is an *Employer* in its own right and is registered with duties as prescribed in the Compensation for Occupational Injuries & Diseases Act No. 130 of 1993.

Z19 | Dispute resolution:

Z19.1 Appointment of the Adjudicator

An *Adjudicator* is appointed when a dispute arises, from the Panel of Adjudicators below. The referring party nominates an Adjudicator, which nomination is either accepted or rejected by the other party. In the instance of a rejection of the nominated *Adjudicator,* the referring Party refers the appointment deadlock to the Chairman of the Johannesburg Bar Council, who appoints an *Adjudicator* listed in the Panel of Adjudicators below

The Parties appoint the *Adjudicator* under the NEC3 Adjudicator's Contract, April 2013

Panel of Adjudicators

Name	Location	Contact details (phone & e mail)
Adv. Ghandi Badela	Gauteng	+27 11 282 3700 ghandi@badela.co.za
Mr. Errol Tate Pr. Eng.	Durban	+27 11 262 4001 Errol.tate@mweb.co.za
Adv. Saleem Ebrahim	Gauteng	+27 11 535-1800 salimebrahim@mweb.co.za
Mr. Sebe Msutwana Pr. Eng.	Gauteng	+27 11 442 8555 sebe@civilprojects.co.za
Mr. Sam Amod	Gauteng	sam@samamod.com
Adv. Sias Ryneke SC	Gauteng	083 653 2281 reyneke@duma.nokwe.co.za
Mr. Emeka Ogbugo (Quantity Surveyor)	Pretoria	+27 12 349 2027 emeka@gosiame.co.za

Z19.2 Appointment of the Arbitrator

An *Arbitrator* is appointed when a dispute arises from the Panel of Arbitrators below. The referring party nominates an Arbitrator, which nomination is either accepted or rejected by the other party. In the instance of a rejection of the nominated *Arbitrator,* the referring Party refers the appointment deadlock to the Chairman of the Johannesburg Bar Council, who appoints an *Arbitrator* listed in the Panel of *Arbitrators* below

Panel of Arbitrators

Name	Location	Contact details (phone & e mail)
Adv. Ghandi Badela	Gauteng	+27 11 282 3700 ghandi@badela.co.za
Mr. Errol Tate Pr. Eng.	Durban	+27 11 262 4001 Errol.tate@mweb.co.za
Adv. Saleem Ebrahim	Gauteng	+27 11 535-1800 salimebrahim@mweb.co.za
Mr. Sebe Msutwana Pr. Eng.	Gauteng	+27 11 442 8555 sebe@civilprojects.co.za
Mr. Sam Amod	Gauteng	sam@samamod.com
Adv. Sias Ryneke SC	Gauteng	083 653 2281 reyneke@duma.nokwe.co.za
Mr. Emeka Ogbugo (Quantity Surveyor)	Pretoria	+27 12 349 2027 emeka@gosiame.co.za

Part C2: Pricing Data

TSC3 Option A

C2.1 Pricing assumptions: Option B

The *conditions of contract*

How work is priced and assessed for payment

Clause 11 in the core and Option B clauses of the NEC3 Term Service Contract, April 2013 (TSC3) state:

Identified and defined terms	11 11.2	(12) The Price List is the *price list* unless later changed in accordance with this contract. (18) The Price for Services Provided to Date is the Defined Cost which the *Contractor* has paid plus the Fee. (20) The Prices are the amounts stated in the Price column of the Price List. Where a quantity is stated for an item in the Price List, the Price is calculated by multiplying the quantity by the rate.

Payments are made according to Defined Cost plus Fee (See core clauses 11.2(5), 11.2(6) and 11.2(8)). At the dates stated in the Contract Data, the *Service Manager* calculates the *Contractor*'s share in terms of clause 53. If the *Contractor* has been paid more than the equivalent Prices in the Price List for the same work he pays the *Employer* a portion of the over-run (the pain) but if he has been paid less than the equivalent Prices in the Price List he is paid a portion of the under-run (the gain). The Prices in the Price List are derived from a list of items of service which can be priced as lump sums or as expected quantities of service multiplied by a rate or a mix of both.

Function of the Price List

In this Option the Price List is used as a means of arriving at a target price. Clause 54.1 in Option C states: "Information in the Price List is not Service Information". This confirms that instructions to do work or how it is to be done are not included in the Price List but in the Service Information. This is further confirmed by Clause 20.1 which states, "The *Contractor* Provides the Service in accordance with the Service Information". Hence the *Contractor* does **not** Provide the Service in accordance with the Price List.

Link to the *Contractor*'s plan

Clause 21.4 states "The *Contractor* provides information which shows how each item description on the Price List relates to the operations on each plan which he submits for acceptance". Hence when compiling the *price list*, the tendering contractor needs to develop his first clause 21.2 plan in such a way that operations shown on it can be related to items of service priced in the *price list*.

Preparing the *price list*

It will be assumed that the tendering contractor has read Pages 14, 15 and 76 of the TSC3 Guidance Notes before preparing the *price list*. Items in the *price list* may have been inserted by the *Employer* and the tendering contractor should insert any additional items which he considers necessary. Whichever party provides the items in the *price list* the total of the Prices is assumed to be fully inclusive of everything necessary to Provide the Service as described at the time of entering into this contract.

1 As the *Contractor* has an obligation to correct Defects (core clause 42.1) and there is no compensation event for this unless the Defect was due to an *Employer's* risk, the lump sum Prices and rates must also include for the correction of Defects.

2 If the *Contractor* has decided not to identify a particular item in the *price list* at the time of tender the cost to the *Contractor* of doing the work must be included in, or spread across, the other Prices and rates in the *price list* in order to fulfil the obligation to complete the *service* for the tendered total of the Prices, in this case the target.

3 There is no adjustment to lump sum prices in the *price list* if the amount, or quantity, of work within that lump sum item of service later turns out to be different to that which the *Contractor* estimated at time of tender. The only basis for a change to the Prices (and hence to the target) is as a result of a compensation event. See Clause 60.1.

4 Hence the Prices and rates tendered by the *Contractor* in the *price list* are inclusive of everything necessary and incidental to Providing the Service in accordance with the Service Information, as it was at the time of tender, as well as correct any Defects not caused by an *Employer's* risk.

5 The Contractor does not have to allow in his Prices and rates for matters that may arise as a result of a compensation event. It should be noted that the list of compensation events includes those arising as a result of an *Employer's* risk event listed in core clause 80.1.

Format of the *price list*

(From page 76 of the TSC3 Guidance Notes)

Entries in the first four columns in the *price list* in section C2.2 are made either by the *Employer* or the tendering contractor.

If the *Contractor* is to be paid an amount for the item which is not adjusted if the quantity of work in the item changes, the tendering contractor enters the amount in the Price column only, the Unit, Expected Quantity and Rate columns being left blank.

If the *Contractor* is to be paid an amount for an item of work which is the rate for the work multiplied by the quantity completed, the tendering contractor enters the rate which is then multiplied by the Expected Quantity to produce the Price, which is also entered.

If the *Contractor* is to be paid a Price for an item proportional to the length of time for which a service is provided, a unit of time is stated in the Unit column and the expected length of time (as a quantity of the stated units of time) is stated in the Expected Quantity column.

C2.2 the *price list*

PRICING SCHEDULE
Part 1: Preventative Maintenance

No.	Item	Frequency	Qty	Unit Price (R)	Total (R)
Human Resources/Key Personnel					
1	Site Supervisor	Monthly	12 months		
2.1	Electrician 1	Monthly	12 months		
2.2	Electrician 2	Monthly	12 months		
3.1	Electrical Assistant 1	Monthly	12 months		
3.2	Electrical Assistant 2	Monthly	12 months		
Sub-Total (Human Resources/Key Personnel)					
Transformer Maintenance and Testing					
4	Substations Transformers Oil Sampling, Testing, Analysis by SANAS Accredited Laboratory and Reporting [Tests to include Acidity, dielectric strength, Moisture content, Dissolved Gas Analysis (DGA), Polychlorinated Biphenyls (PCB), Furanics, corrosive sulphur, Inductively Coupled Plasma (ICP), Tan-Delta test]	Annually	42		
5	Mini-substation Transformers Oil Sampling, Testing, Analysis by SANAS Accredited Laboratory and Reporting [Tests to include Acidity, dielectric strength, Moisture content, Dissolved Gas Analysis (DGA), Polychlorinated Biphenyls (PCB), Furanics, corrosive sulphur, Inductively Coupled Plasma (ICP), Tan-Delta test]	Annually	30		
6	Replace silica gel on each transformer	Annually	72		
7	Transformer general inspection, servicing and Testing	Annually	72		
8	Buchholz Relay Functional Testing (Alarm and Trip Tests)	Annually	72		
9	Temperature Probe Functional Testing and calibration (Alarm and Trip Tests)	Annually	72		
10	Thermal imaging/infrared scanning of transformer terminations (both MV and LV terminations)	Annually	72		
Sub-Total (Transformer Maintenance and Testing) Annually					
11	Insulation resistance testing	Once-off	72		
12	DC primary winding resistance test	Once-off	72		
13	DC secondary winding resistance test	Once-off	72		
14	Ratio test	Once-off	72		
15	Vector group test	Once-off	72		
16	Polarity check	Once-off	72		

17	Oil temperature gauge/probe functionality	Once-off	72		
18	Short circuit impedance	Once-off	72		
Sub-Total (Transformer Maintenance and Testing) Once Off					
Total Transformer Maintenance and Testing (Annually + Once Off)					
Other Activities					
19	Substation earthing resistance tests for all transformers in Substations and Mini substations	Annually	1 time		
20	MV Cable Very Low Frequency (VLF) Testing for at least 15 minutes per cable per phase (All MV cable runs throughout the airport, excluding transformer MV cables, 72 cable runs)	Once-off	1 time		
21	Verification of protection settings and functionality Testing of Protection relays	Annually	1 time		
22	Testing and calibration of VT's and CT's (Primary Injection Tests, etc.)	Annually	1 time		
23	Monthly inspection and servicing of Battery tripping units (BTUs)	Annually	12 times		
24	Torquing and cleaning of Busbar conductors (All MV Switchboards, and Transformer Main 400V LV Distribution Boards)	2-Yearly	2 times		
25	MV cable Joints (Ad-hoc basis)	Annually	10 times		
26	Pressure testing of MV Cables (Ad-hoc basis)	Annually	10 times		
27	Thermal Imaging/Infrared Scanning of all MV and LV Switchboards throughout the airport, Including DBs and PFC Panels	Annually	1 time		
28	CoC issue and inspection (Ad-hoc basis)	Annually	20 times		
Other Activities (Sub-Total)					
MV Switchgear Yearly Maintenance and Testing					
29	Power and Lighting Main Alstom Switchgear	Annually	11		
30	Power and Lighting Alstom Switchgear	Annually	2		
31	Alpha Substation ABB Switchgear	Annually	17		
32	2 Alpha Substation ABB Switchgear	Annually	8		
33	Air-Franc Substation Alstom Switchgear	Annually	7		
34	TACAN Substation Alstom Switchgear	Annually	3		
35	Substation 19 Alstom Switchgear	Annually	4		
36	Substation 01 Alstom Switchgear	Annually	4		
37	S-Band Substation Alstom Switchgear	Annually	4		
38	Pick n Pay / Clover ABB Switchgear	Annually	4		
39	North Substation RMU	Annually	9		
40	South Substation RMU	Annually	9		
41	Terminal 1 Substation RMU	Annually	5		
42	Terminal 5 Substation RMU	Annually	5		

43	SOB Substation RMU	Annually	3		
44	Parkade 1 Substation RMU	Annually	3		
45	Parkade 2 Substation RMU	Annually	3		
46	Oval Park Substation RMU	Annually	3		
47	Mini Substations (30 x 3-Way RMUs)	Annually	90		
48	Basement Substation RMU	Annually	4		
49	SA Cargo Substation	Annually	6		
Sub-Total (MV Switchgear Yearly Maintenance and Testing)					
MV Switchgear 3-Yearly Maintenance and Testing					
50	Power and Lighting Main Alstom Switchgear	3-Yearly	11		
51	Power and Lighting Alstom Switchgear	3-Yearly	2		
52	Alpha Substation ABB Switchgear	3-Yearly	17		
53	2 Alpha Substation ABB Switchgear	3-Yearly	8		
54	Air-Franc Substation Alstom Switchgear	3-Yearly	7		
55	TACAN Substation Alstom Switchgear maintenance and testing	3-Yearly	3		
56	Substation 19 Alstom Switchgear maintenance and testing	3-Yearly	4		
57	Substation 01 Alstom Switchgear maintenance and testing	3-Yearly	4		
58	S-Band Substation Alstom Switchgear maintenance and testing	3-Yearly	4		
59	Pick n Pay / Clover Alstom Switchgear	3-Yearly	4		
60	North Substation RMU	3-Yearly	9		
61	South Substation RMU	3-Yearly	9		
62	Terminal 1 Substation RMU	3-Yearly	5		
63	Terminal 5 Substation RMU	3-Yearly	5		
64	SOB Substation RMU	3-Yearly	3		
65	Parkade 1 Substation RMU	3-Yearly	3		
66	Parkade 2 Substation RMU	3-Yearly	3		
67	Oval Park Substation RMU	3-Yearly	3		
68	Mini Substations (30 x 3-Way RMUs)	3-Yearly	90		
69	Basement Substation RMU	3-Yearly	4		
70	SA Cargo Substation switchgear maintenance and testing including Oil Circuit Breaker (OCB) Oil sampling testing, analysis and reporting	3-Yearly	6		
Sub-Total (MV Switchgear 3-Yearly Maintenance and Testing)					
400 V Switchgear 2-Yearly Maintenance and Testing					
71	Power and Lighting ACBs	2-Yearly	16		
72	North Substation ACBs & Gen Changeovers	2-Yearly	14		
73	South Substation ACBs & Gen Changeovers	2-Yearly	11		
74	Terminal 1 Substation ACBs	2-Yearly	3		
75	Terminal 5 Substation ACBs & Gen Changeovers	2-Yearly	7		
76	SOB Substation ACBs	2-Yearly	3		

77	Parkade 1 Substation NS & Gen Changeover	2-Yearly	3		
78	Parkade 2 Substation ACB & Gen Changeover	2-Yearly	3		
79	Substation 19 ACBs & Gen Changeovers	2-Yearly	4		
80	Substation 01 ACBs & Gen Changeovers	2-Yearly	4		
81	Basement Substation ACBs	2-Yearly	3		
82	Oval Park Substation	2-Yearly	2		
83	Shell Generator	2-Yearly	2		
84	Mini Substations	2-Yearly	30		
Sub-Total (400 V Switchgear 2-Yearly Maintenance and Testing)					
85	Power Factor Correction Maintenance and Testing	Annually	15		
Sub-Total (400 V Switchgear 2-Yearly Maintenance and Testing)					
	Total Cost Part 1: Preventative Maintenance Excl. VAT			**R**	

Note:

1. *Includes: 2 x Vehicle cost; Administration costs; Telephone cost for site team; stationary; training for upkeep of valid certifications; OHS Requirement for safety file validity; and/or other cost pertaining to running the contract over and the above list of works.*
2. *Site Supervisor to monitor the work and provide technical reports on major incidents and maintenance progress reports.*
3. *Electrical Engineer / Technician to perform relay settings, programming and co-ordination.*
4. *Master installation electrician required for compliance installations, inspections and certification.*
5. *Pricing for personal is for 10 staff members as per the staff requirement list.*
6. *Work tasks include Daily WR Call outs, Weekly inspections Monthly checks and Work orders.*
7. *Structural Integrity of MV Panels*
8. *Thermal Verification*
9. *Transformer Oil Analysis – if PCB's is present remove and replace the oil.*
10. *Inspection of high voltage cable insulation*
11. *Calibration, setting and functionality Testing of Protection relays.*
12. *Testing and calibration of VT's and CT's*
13. *Earth Leakage testing*
14. *Thermal Verification*
15. *Earth Cable resistance*
16. *CoC will be done on AD HOC, as pricing set value we will use 20 times as a fair estimation. CoC will be done on all ACSA owned property when needed and any findings will be repaired under the normal contract work task in point 4.*

Labour Rates and Mark-up

Any works Outside the scope of the contract as per will be charged at the labour rates below:

	Description	Normal Hours (R/hr)	After Hours (R/hr)	Sun/Public H Hr (R/hr)
1	**Site Manager / Contract Manager**			
2	**Electrical Engineer**			
3	**OEM Specialist**			
4	**Installation Electrician (IE)** *(For 1ph and 3ph installations, CoC and Compliance Inspections)*			
5	**Master Installation Electrician (MIE) {***For Specialized 1ph and 3ph installations (Installations in medical and hazardous locations), CoC and Compliance Inspections***}**			
6	**Electrician**			
7	**Electrical Assistant**			
8	**General Labourer**			

NB: Current rates for year 1 of the contract will be escalated by CPI annually on the anniversary of the contract

Part 2

Preliminaries and general

Item no.	Description - Contract Administration Costs	Frequency	Quantity	Cost per item	Total cost
Preliminary and General - Contract Administration Costs:					
1	Airside Induction Training (AIT Initial)	Every 2 years	5 personnel x 3	R2 104.00	R31 560.00
2	General Security Awareness	Every 2 years	5 personnel x 3	R960.00	R14 400.00
3	Vehicle permits and branding.	Annually	2	R13 250.00	R26 500.00
4	Airside Vehicle Operating Permit	Every 2 years	2 personnel	R960.00	R1 920.00
5	Safety File	Once off	1	R15 000.00	R15 000.00
7	Provisional sum (Spares and ad hoc over the contract term)	Provisional sum	1	R8 000 000.00	R8 000 000.00
8	Site establishment – site offices and storage facilities (Prefab office with all services including electricity, water, cooling/heating facilities, windows, doors, lights, etc)	Once off	1	R55 000.00	R55 000.00
Total preliminaries and general's costs (Excl. VAT)					**R8 144 380.00**

- *N.B. Contract administrative costs not payable upfront but will be drawn off this amount as and when required. This amount covers the full contract duration of 60 Months.*
- *The procured container for site establishment shall remain property of ACSA.*
- *The above budget of personal permits is for maximum of 10 people annually.*
- *Safety induction to be done every 2 years (year 1, year 3 and year 5)*
- *Safety file cost to include medicals examinations as a once off cost.*
- *Preliminaries and generals will be paid at proven cost.*
- **ACSA reserves the right to retain possession of office and storage facilities established at the expense of ACSA except where the said facilities are leased. Annual claim for insurance payment will be done on the date the contract is initiated and annually on the anniversary of contract start.*

Contract Price and Price Adjustment for inflation

The rates applicable to this contract will be listed as in the Bid submission returnable and as per Activity Schedule. The total contract price shall be adjusted on each anniversary date to compensate for increases in cost of labours. The labour content of the contract price, as declared in the Bid Price summary, shall be adjusted on the basis of the increase or decrease in CPI.

Mark-up (3rd party procured items/services)

Spares and sub-contracted work will be charged at cost plus mark-up. VAT shall not form part of mark-up calculations. Cost shall be net cost (excluding VAT) of parts supplied to site with all discounts deducted.
Percentage added shall include profit, overheads, financing, contract insurance, guarantee costs and supervision, and contract management.
ACSA retains the right to procure parts of equal quality and standard if such goods or services can be procured at a lower cost and supply same to the Contractor for fitment or use.
This will be used for any works including emergency works as per ACSA process.

Value of Items or Services per month	Mark up-percentage
R 0 – R5000	%
R5001 – R30000	%
R30001 – R100 000	%
R100 001 – R1 000 000	%
Over R 1 000 000	%

NB: Spares and sub-contracted work will be charged at a market related cost, plus mark-up. The mark-up percentage will be closely monitored before releasing payment.

Provisional Spare Parts and Additional Work Rates

Note# The contractor is required to price for all the listed spare parts and additional work below. CPI may be applied on the second year and future years on the anniversary date of the contract. These amounts will not be included in the pricing schedule (Total cost of the contract) these rates below will only be used when purchasing spares listed below and conducting additional work listed below. At the time of use when the below spares and / or additional work is required, benchmarking by the contract manager will determine whether the pricing is market related or not, should the pricing not be market related, the winning/contracted service provider shall issue quotations and where applicable third-party quotations to be submitted as well for the contract manager to determine what mark-up percentage was applied for work or spares sourced from third party service providers.

Item	Description	Unit of Measure	Unit Cost
1	Transformer mineral oil	Liter	
2	Cable fault location	Each	
3	Performing MV cable joint	Each	
4	Performing MV cable termination	Each	
5	Performing LV cable joint	Each	
6	Performing LV cable termination	Each	
7	185mm^2 x 3 Core, Copper PILC MV cable	Meter	
8	95mm^2 x 3 Core, Copper PILC MV cable	Meter	
9	70mm^2 x 3 Core, Copper PILC MV cable	Meter	
10	185mm^2 x 3 Core, Copper XLPE MV cable	Meter	
11	95mm^2 x 3 Core, Copper XLPE MV cable	Meter	
12	70mm^2 x 3 Core, Copper XLPE MV cable	Meter	
13	50mm^2 x 3 Core, Copper XLPE MV cable	Meter	
14	10mm^2 X 4 Core, Copper armoured LV cable	Meter	
15	16mm^2 X 4 Core, Copper armoured LV cable	Meter	
16	25mm^2 X 4 Core, Copper armoured LV cable	Meter	
17	35mm^2 X 4 Core, Copper armoured LV cable	Meter	
18	50mm^2 X 4 Core, Copper armoured LV cable	Meter	
19	70mm^2 X 4 Core, Copper armoured LV cable	Meter	
20	95mm^2 X 4 Core, Copper armoured LV cable	Meter	
21	120mm^2 X 4 Core, Copper armoured LV cable	Meter	
22	150mm^2 X 4 Core, Copper armoured LV cable	Meter	
23	185mm^2 X 4 Core, Copper armoured LV cable	Meter	
24	240mm^2 X 4 Core, Copper armoured LV cable	Meter	
25	300mm^2 X 4 Core armoured LV cable	Meter	
26	70mm^2 Single Core armoured LV cable	Meter	
27	95mm^2 Single Core armoured LV cable	Meter	
28	120mm^2 Single Core armoured LV cable	Meter	
29	150mm^2 Single Core armoured LV cable	Meter	
30	185mm^2 Single Core armoured LV cable	Meter	
31	240mm^2 Single Core armoured LV cable	Meter	
32	300mm^2 Single Core armoured LV cable	Meter	

33	70mm^2 Single Core unarmoured/flexible LV cable	Meter	
34	95mm^2 Single Core unarmoured/ flexible LV cable	Meter	
35	120mm^2 Single Core unarmoured/flexible LV cable	Meter	
36	150mm^2 Single Core unarmoured/flexible LV cable	Meter	
37	185mm^2 Single Core unarmoured/flexible LV cable	Meter	
38	240mm^2 Single Core unarmoured/flexible LV cable	Meter	
39	300mm^2 Single Core unarmoured/flexible LV cable	Meter	
40	95 - 240mm^2 PILC MV cable heat shrink joint kit	Each	
41	35 - 70mm^2 PILC MV cable heat shrink joint kit	Each	
42	95 - 240mm^2 PILC MV heat shrink cable termination kit	Each	
43	35 - 70mm^2 PILC MV heat shrink cable termination kit	Each	
44	95 - 240mm^2 XLPE MV heat shrink cable joint kit	Each	
45	35 - 70mm^2 XLPE MV heat shrink cable joint kit	Each	
46	95 - 240mm^2 PILC MV cable cast iron joint kit	Each	
47	35 - 70mm^2 PILC MV cable cast iron joint kit	Each	
48	95 - 240mm^2 XLPE MV cable cast iron joint kit	Each	
49	35 - 70mm^2 XLPE MV cable cast iron joint kit	Each	
50	95 - 240mm^2 XLPE MV heat shrink cable termination kit	Each	
51	35 - 70mm^2 XLPE MV heat shrink cable termination kit	Each	
52	MV Cable termination boots (25mm^2 to 300mm$^{2)}$	Set of 3	
53	Scotch cast LV Cable Joint (Armoured cable 10 mm^2 to 35 mm^2)	Each	
54	Scotch cast LV Cable Joint (Armoured cable 50 mm^2 to 95 mm^2)	Each	
55	Scotch cast LV Cable Joint (Armoured cable 120 mm^2 to 185 mm^2)	Each	
56	Scotch cast LV Cable Joint (Armoured cable 240 mm^2 to 300 mm^2)	Each	
57	Heat Shrink LV Cable Joint (Armoured cable 10 mm^2 to 35 mm^2)	Each	
58	Heat Shrink LV Cable Joint (Armoured cable 50 mm^2 to 95 mm^2)	Each	
59	Heat Shrink LV Cable Joint (Armoured cable 120 mm^2 to 185 mm^2)	Each	
60	Heat Shrink LV Cable Joint (Armoured cable 240 mm^2 to 300 mm^2)	Each	
61	Buchholz relay	Each	
62	Transformer temperature gauge or probe	Each	
63	120V DC, 50Ah Battery tripping unit	Each	
64	60V DC, 20Ah Battery tripping unit	Each	
65	24V DC, 10Ah Battery tripping unit	Each	
66	Maintenance free 12V BTU Batteries, Valve regulated Lead -Acid (VRLA) battery or equivalent	Each	
67	15m Lead Pendant switch / Umbilical cord	Each	
68	Oil purification per Liter per pass/cycle	Each	
69	Intelligent Electronic Device (IED) / Protection relay (Over current and Earth fault)	Each	
70	Intelligent Electronic Device (IED) / Protection relay (Over current, Earth fault protection, Directional over current and Directional earth fault)	Each	
71	Intelligent Electronic Device (IED) / Protection relay (Over current, Earth fault, Buchholz and over temperature alarms and trips protection)	Each	
72	Differential Protection relay	Each	
73	Supervisory relay	Each	
74	Arc Protection relay	Each	
75	Outdoor signage for substations and Mini Subs (1m x 0,6m)	Each	
76	Outdoor signage for Ring Main Unit (0,6m x 0,4m)	Each	
77	Power Meter (PM5760)	Each	
78	Power Meter (PM8000)	Each	
79	Power Meter (ION7000)	Each	
80	Power Meter (ION9000)	Each	
81	Withdrawable 400V Air Circuit Breakers (ACB's) MTZ25H1, 65kA	Each	
82	Withdrawable 400V Air Circuit Breakers (ACB's) MTZ25H1, 65kA motorized	Each	
83	Withdrawable 400V Air Circuit Breakers (ACB's) MTZ16 H1, 65kA	Each	
84	Withdrawable 400V Air Circuit Breakers (ACB's) MTZ16 H1,65kA motorized	Each	
85	Withdrawable 400V Air Circuit Breakers (ACB's) MTZ10 H1, 42kA	Each	
86	Withdrawable 400V Air Circuit Breakers (ACB's) MTZ10 H1, 42kA motorized	Each	

87	Withdrawable 400V Air Circuit Breakers (ACB's) NW25H1, 65kA	Each	
88	Withdrawable 400V Air Circuit Breakers (ACB's) NW25H1, 65kA motorized	Each	
89	Withdrawable 400V Air Circuit Breakers (ACB's) NW16 H1, 65kA	Each	
90	Withdrawable 400V Air Circuit Breakers (ACB's) NW16 H1,65kA motorized	Each	
91	Withdrawable 400V Air Circuit Breakers (ACB's) NW10 H1, 42kA	Each	
92	Withdrawable 400V Air Circuit Breakers (ACB's) NW10 H1, 42kA motorized	Each	
93	Partial discharge testing	Each	
94	Power factor correction controller, VL12	Each	
95	PFC cannon type capacitor 12,5kVAr	Each	
96	PFC cannon type capacitor 25kVAr	Each	
97	PFC cannon type capacitor 50kVAr	Each	
98	PFC cannon type capacitor 100kVAr	Each	
99	Anti-harmonic detuned reactor 12,5kVAr	Each	
100	Anti-harmonic detuned reactor 25kVAr	Each	
101	Anti-harmonic detuned reactor 50kVAr	Each	
102	Anti-harmonic detuned reactor 100kVAr	Each	
103	Capacitor contactor 12,5kVAr	Each	
104	Capacitor contactor 25kVAr	Each	
105	Capacitor contactor 50kVAr	Each	
106	Capacitor contactor 100kVAr	Each	
107	Panel Fans, single phase, 230V	Each	
108	Panel Fans, three phase, 400V	Each	

Summary Pricing Schedule

Line	Description	Total
1	**Year 1**= (*Key Personnel Sub-Total + Annual Maintenance)*	R
2	**Year 2** = (*Year 1 incl. 6% CPI + 2 yearly Maintenance)*	R
3	**Year 3**= (*Year 1 incl. 6% CPI + 3 yearly Maintenance – MV Switchgear Yearly Maintenance and Testing incl. 6% CPI)*	R
4	**Year 4** = (*Year 2 incl. 6% CPI)*	R
5	**Year 5** = (*Year 1 incl. 6% CPI)*	R
6	**Once-Off Maintenance Activities**	R
Grand Total 5 years Part 1: Maintenance (Year 1 + Year 2+ Year 3+ Year 4+ Year 5+ Once-off)		R
7	**Total cost Part 2: Preliminaries and General's costs**	**R 8,144,380.00**
Total Cost excl. VAT (Grand Total 5 years + Part 2: P's & G's)		R
	VAT@ 15%	
	Total Cost (incl. VAT 15%)	**R**
*****This should be the same amount as the C1.1 Form of Offer and acceptance in the contract***		

Part C3: EMPLOYER'S SERVICE INFORMATION

Contents

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1 Description of the *service*

1.1 Executive overview

The CTIA Electrical Maintenance's objective is to maintain the serviceability of the electrical reticulation network for a period of Sixty (60) months at Cape Town International Airport in a sustainable manner at the lowest operating and maintenance costs while ensuring electrical compliance to the SANS 10142, this request is furthermore guided by the Maintenance of Aerodrome Electrical Systems (D060 018M) and Maintenance of 11kV SF6, Vacuum Circuit Breakers Maintenance (D060 023) which defines the specific maintenance activities to be carried out and followed to ensure that all infrastructure is effectively maintained in accordance with applicable policies, regulations, standards and general safety and aviation related legislation. The brief scope of work is summarized below:

Preventative and corrective maintenance will cover the following electrical infrastructure:

MV Switchgear – All 11KV equipment; including sub-components, MV Board Housing Panel, Bus-Bar Conductors, Cabling and Termination Accessories, Circuit breakers, Instrument Transformers, Metering Equipment, Pendant Switch, Mimic Panel, Protection Equipment {Relays, Transducers, Battery Tripping Unit (BTU), Communication Devices etc}, Indication Lighting, Ring Main Units, etc.

LV Switchboards – All 400V and 230V (including air circuit breakers (ACBs), moulded case circuit breakers (MCCBs), miniature circuit breakers (MCBs), fuses, power meters, changeover switches, etc.), Power Transformers, Power Factor Correction (PFC) equipment (including capacitors, controllers, circuit breakers, fuses, manual/off/auto selector switches, detuned reactors, etc.), SCADA System (if applicable), Infrared scanning/thermal imaging.

Supply of spares inventory as and when required and management thereof.

1.2 *Employer*'s requirements for the *service*

Below is a summary of the scope and assets covered under the contract.

List of Electrical Substations and Mini Substations covered but not necessarily limited to the following:

1. Power & Lighting Substation
2. Substation 01
3. S Band Substation
4. Vortec / TACAN Substation
5. Substation 19
6. Gate Gourmet Mini Substation
7. Bravo 1 Mini Substation
8. Bravo 2 Mini Substation
9. Bravo 3 Mini Substation
10. Bravo 4 Mini Substation
11. Safair Mini substation
12. New Radar Mini Substation
13. LGM Hangar Mini Substation
14. Court Mini Substation
15. Industrial Mini Substation
16. First Car Rental Mini Substation
17. Precinct 5 Mini Substation
18. Falcon Mini Substation
19. Cape Business Aviation Mini Substation
20. Thunder City Mini Substation
21. SSS Mini Substation
22. Alpha Substation

23. Terminal 1 Substation
24. Basement Substation
25. SOB Substation
26. Terminal 5 Substation
27. North Substation
28. South Substation
29. 35 Squadron Substation
30. Swartklip Substation
31. Air franc Substation
32. 2 Alpha Substation
33. Clover Substation
34. Massmart Ring Main Unit
35. Micor / FedEx Mini Substation
36. Rennie's Mini Substation
37. New Cargo Mini Substation
38. Rohlig Mini Substation
39. CTX 1 Mini Substation
40. CTX 2 Mini Substation
41. Oval Park Substation
42. Parkade 1 Substation
43. Parkade 2 Substation
44. Car Park Mini Substation
45. BP Hotel Mini Substation
46. AVIS Mini Substation
47. Shell Mini Substation
48. SA Cargo substation
49. Data Centre Mini Substation
50. Transmitter Towers Substation
51. All future assets handed over to CTIA Electrical Department

Scope of electrical work include but not necessarily limited to the following:

Provide maintenance to electrical distribution network (11kV Substations, Mini Substations, Main 400V panel and 400V Circuit breakers, Transformers, RMU, Protection relays, Battery tripping units, Remote switching, Mimic panels, maintenance and testing of earthing systems, maintenance and testing to power factor correction units, maintenance to back-up supply system changeover circuit breakers, maintenance to power meters, etc.)

Maintenance can be defined as any task to clean, preserve, service or extend the life span of the asset. Contractor must ensure the asset remain in peak conditions and will be held liable for defects that were not reported for repairs, upgrade, or replacement by mean of a written asset report, risk analysis and feasibility study. This will be done by the resources under this contract.

a. Installation and commissioning of new systems as and when required.
b. Ensure installations comply with SANS 10142
c. Repair of faulty and defective equipment.
d. Upgrade of existing electrical infrastructure as and when required.
e. Refurbish of existing infrastructure as and when required.
f. Execute costs saving initiatives and electricity billing recovery projects.

Preventative and Corrective Maintenance:
All preventative and corrective maintenance is issued by IMC through the work order system. The work order must be completed and submitted upon work completion in conjunction with any required reporting. Below will define the work types and magnitude of work scopes:

A. Work Tasks:

I. Daily and Weekly Corrective Work Orders (AKA Work Requests)
These are calls logged at the maintenance helpdesk by stakeholder for defects. The contractor will be dispatched to the stakeholder for assessment and immediate repairs. In the event a task could not be completed, feedback must be given to the helpdesk with reason for delay and action plan for repairs. This work will be completed within 3 days of dispatch as the SLA (Service Level Agreement) of this contract. This includes all repairs, maintenance, upgrade and replacements.

II. Weekly and Monthly Work Order (Preventative works)
These are work orders for inspections and planned routine maintenance work to all electrical assets to prevent any failures or breakdown. This maintenance will be done on all ACSA electrical equipment as per the asset list. A comprehensive report shall be submitted to the contract manager monthly.

III. 3 Monthly Work Order (Auditing)
All retail areas and stakeholder rentals are maintained by the Leese as per the lease. The asset needs to be kept to the standards, and 3 monthly audits and reporting will be done on these areas to ensure the stakeholder upkeep the rental property. This will be a compliance audit to ensure that the building still complies to its latest CoC. Any defects or deviation found must be reported to the contract manager in writing in the form of a report to ensure corrective actions takes place. All Work tasks must be documented, and a work order must be issued for all tasks. All work order tasks will be done under the contract.

A. Earth Leakage testing
B. Thermal Verification
C. Portable Appliance Checks
D. Earth Cable resistance
E. Testing of Electrical Installations and Issuing of CoCs

Provisional Minor Capex Projects:
A portion of this contract budget will cover minor capex projects works such as refurbishment, replacement of failed components of the reticulation network and these projects will be paid via Provisional sum amount.
Minor Projects works include but not limited to:
1.Circuit breakers upgrade
2.Power factor correction unit replacement
3.Battery tripping unit
4.MV Cable replacement
5.Protection relays upgrade and load flow studies

The contractor will be expected to produce monthly report detailing all works completed, including inspection findings, recommendations, highlighting all areas requiring attention. The report shall include accurate stock reconciliation, of stock uses and purchases including stock at hand.
The resources assigned will be a minimum of two qualified electricians and four assistants.

1.3 Interpretation and terminology

If required include here definitions additional to those used in the *conditions of contract* which are required only for the purpose of making the Service Information easier to draft and read. Also list abbreviations used and provide a full interpretation of each one, for example:

The following abbreviations are used in this Service Information:

Abbreviation	Meaning given to the abbreviation
ACSA	Airports Company South Africa
CTIA	Cape Town International Airport
BBBEE	Broad Base Black Economic Empowerment
PPPFA	Preferential Procurement Policy Framework Act
OHS	Occupational Health & Safety
H&S	Health and Safety
SANS	South African National Standard

2 Management strategy and start up.

2.1 The *Contractor*'s plan for the *service*

The Contractor's plan shall be issued by the Contractor to the Employer at the beginning of each working month throughout the duration of the Contract. The Contractor's plan shall be reviewed by both parties.

The Contractor's plan shall include work time schedules (programme), Material required, plant & equipment required, resources and the Total work cost.

The final plan agreed to shall be adopted for use.

The Contractor's plan shall be as per clause 21 of the Term Service Contract.

2.2 Management meetings

The Contractor will be expected to attend meetings to maintenance, operations, contract management and other issues that may arise from time to time. As far as is practicable, the Contractor will make the required persons available for these meetings. The contract shall record and distribute meeting minutes as may be required or agreed with the Service Manager. The contractor shall not submit claims for payment for attending any of these meetings.

Regular meetings of a general nature may be convened and chaired by the *Service Manager* as follows:

Title and purpose	Approximate time & interval	Location	Attendance by:
Risk register and compensation events	Weekly on _____ at ___		
Overall contract progress and feedback	Monthly on _____ at ___		*Employer*, *Contractor* and ___

Meetings of a specialist nature may be convened as specified elsewhere in this Service Information or if not so specified by persons and at times and locations to suit the Parties, the nature and the progress

of the *service*. Records of these meetings shall be submitted to the *Service Manager* by the person convening the meeting within five days of the meeting.

All meetings shall be recorded using minutes or a register prepared and circulated by the person who convened the meeting. Such minutes or register shall not be used for the purpose of confirming actions or instructions under the contract as these shall be done separately by the person identified in the *conditions of contract* to carry out such actions or instructions.

2.3 *Contractor*'s management, supervision and key people

The Contractor will be expected to attend meetings to maintenance, operations, contract management and other issues that may arise from time to time. As far as is practicable, the Contractor will make the required persons available for these meetings. The contract shall record and distribute meeting minutes as may be required or agreed with the Service Manager. The contractor shall not submit claims for payment for attending any of these meetings.

2.4 Provision of bonds and guarantees

The form in which a bond or guarantee required by the *conditions of contract* (if any) is to be provided by the *Contractor* is given in Part 1 Agreements and Contract Data, document C1.3, Sureties.

The *Employer* may withhold payment of amounts due to the *Contractor* until the bond or guarantee required in terms of this contract has been received and accepted by the person notified to the *Contractor* by the *Service Manager* to receive and accept such bond or guarantee. Such withholding of payment due to the *Contractor* does not affect the *Employer*'s right to termination stated in this contract.

2.5 Documentation control

Documents will be identified with an alpha numeric which indicates source and receipts. The exact document referencing, or numbering option shall be discussed and agreed between the Service Manager and the Contractor upon inception of the contract.

Contractual communication will in the form of:

- Written signed letter, letter can be hand delivered or attached to an e-mail.
- Written signed document, the document can be hand delivered or attached to an e-mail.
- And e-mail

2.6 Invoicing and payment

Include a list of information which is to be shown on an invoice as per the example given below.

Within one week of receiving a payment certificate from the *Service Manager* in terms of core clause 51.1, the *Contractor* provides the *Employer* with a tax invoice showing the amount due for payment equal to that stated in the *Service Manager*'s payment certificate.

The *Contractor* shall address the tax invoice to
Private Bag X 9002, Cape Town International, Western Cape, South Africa, 7525.

and include on each invoice the following information:

Name and address of the *Contractor* and the *Service Manager;*
The contract number and title;
***Contractor*'s VAT registration number;**
The *Employer*'s VAT registration number _____;

Description of service provided for each item invoiced based on the Price List;
Total amount invoiced excluding VAT, the VAT and the invoiced amount including VAT;
(add other as required).

Add procedures for invoice submission and payment (e. g. electronic payment instructions).
Where internal approval policies regulate payment, these should be set out. For example, in the provision of ad hoc services purchase orders may have to be submitted by the Contractor for approval followed by the invoice payment will be made. The following example may apply:

(a) uploading of a blanket purchase agreement to enable payment to the Contractor;
(b) planned maintenance comprising the Service to be preceded by a quotation from the Contractor;
(c) approval of the quote by the Service Manager;
(d) authorisation of the issue of a purchase order;
(e) execution of the Service following issue of the purchase order;
(f) purchase orders collated into monthly payment certificates and for payment in terms of the contract.

Insofar as emergency work is concerned, the “normal” procedure may not apply. This should be set out here. See: 2.13 below for further detail.

2.7 Contract change management

This section is intended to deal with any additional requirements to the compensation event clauses in section 6 of the core clauses; such as the use of standard forms. Not the same thing as documentation control.

2.8 Records of Defined Cost to be kept by the *Contractor*

If Option C or E applies first read clause 52.2 and then state whether the *Contractor* is required to keep any other records. Include any other constraint which may be required in regard to format and filing of the records, and whether access for the *Service Manager* shall be provided in hard copy or electronically.

Could delete if Option A applies unless the *Employer* requires some form of control over the *Contractor*’s record keeping for the purpose of compensation event management.

2.9 Insurance provided by the *Employer*

First read TSC3 Core Clause 86.1 and then add anything necessary for the management of insurance related issues such as a cross reference to where procedures for making claims can be found. Also provide contact details for persons capable of being able to answer any insurance related queries the *Contractor* may have, as well as to whom the information required by Marine Insurance (if any) may be addressed.

2.10 Training workshops and technology transfer

The Contractor must ensure that he/she is, at all times, familiar with ACSA's safety and security requirements relating to permits in order for no work to be delayed as a result thereof. This will include the permit application process.

Note that (with reason) the Contractor will have no claim against ACSA in the event that a permit request is refused.

Proof of having attended the airside induction training course is required for all personal permit applications. Persons applying for an AVOP must provide proof of having attended an AVOP course. Fees are levied for these courses. Fees are further levied for all permit renewals and refresher courses - where applicable.

2.11 Design and supply of Equipment

On some complex services (e. g. nuclear) it could be in the Parties best interests that some details of the design of Equipment are shared with the *Service Manager*, not necessarily for his acceptance but as an assurance that the Equipment will be able to allow the *Contractor* to Provide the Service efficiently and without delay. For example specialised handling Equipment for a particular maintenance operation. Clause 23.1 is always available to the *Service Manager* if this paragraph is not used.

Also the *Employer* may wish to exercise constraints or include witness and hold points during manufacture, assembly or delivery of such Equipment. Include these constraints here.

Draft in such a way that there is no doubt that the liability for such design supply and use of the Equipment remains with the *Contractor*. Consider deleting this if it is not relevant to the contract.

Refer to clause 23 TSC3.

2.12 Things provided at the end of the *service period* for the *Employer*'s use

2.12.1 Equipment

After the end of the service period the Contractor shall deliver to the Employer:

- All material that has been replaced by the contractor may be retained as may be required by the Employer.
- All material, spurs and equipment purchase by the Contractor on behalf of the Employer shall remain properly of the Employer.
- Operations and maintenance manuals for installed equipment & spares, as built drawings, design documents, for construction documents, project plans, models, test results for all test performed, and other documents of technical nature.

2.12.2 Information and other things

None

2.13 Management of work done by Task Order

Refer to Clause X19 of TSC3.

3 Health and safety, the environment and quality assurance

3.1 Health and safety risk management

In addition to the requirements of the laws governing health and safety, the *Employer* may have some additional requirements particular to the *service* and the Affected Property for this contract. The text below provides for these being attached as an Annexure to this Service Information. PLEASE ALSO READ CORE CLAUSE 27.4 TO MAKE SURE THAT WHATHEVER IS INCLUDED IN THE ANNEXURE FOLLOWS ON FROM THOSE CLAUSES.
The *Contractor* shall comply with the health and safety requirements contained in **Annexure B** to this Service Information

3.2 Environmental constraints and management

The *Contractor* shall comply with the environmental criteria and constraints stated in Annexure B.

3.3 Quality assurance requirements

The Contractor must execute all maintenance work according to the industry quality norms and standards prevailing from time to time. In this regard, the Contractor will be expected to draft quality plans from time to time that must be presented to the Service Manager. Emphasis must be on improving system reliability and ensuring that scheduled maintenance work is indeed completed to recommended standards.

The Contractor shall, in the performance of the Works and in accordance with good Service Manage and construction practices, use suitable items.

Quality Assurance

(a) Prior to commencing the Works, the Contractor shall:

(1) Plan, establish and maintain a quality system which conforms with the job quality management plan; and

(2) Provide the Employer with evidence of compliance with the job quality management plan by presenting Contractor warrants.

(b) The job quality management plan is only an aid to achieving compliance with this contract and to document compliance.

The Contractor's scope of obligations will include the management of the Works to ensure performance in accordance with the requirements of this contract.

4 Procurement

The Contractor will always respect OEM (Original Equipment Manufacturer) warranties to ACSA when procuring spare parts, products or 3rd party services. It will be the Contractor’s sole responsibility to ensure that OEM warranty requirements are always adhered to.

The Contractor must adhere to all airport requirements regarding fire resistance, health and safety and quality when procuring replacements.

ACSA currently requires that no casual labour (i.e. "off street labour") may be employed by the Contractor unless pre-arranged with ACSA.

4.1 People

4.1.1 Minimum requirements of people employed

(a) The Contractor shall:

(1) Ensure that all people working in this contract have all necessary relevant working documentation that is compliant to South African labour act, i.e. South African Identity documents and or Working permits for foreigners.

(2) Provide all things and take all measures necessary to protect people and property and, in particular, comply with all Workplace Health and Safety Legislation and take full responsibility for the adequacy, stability and safety of all Materials and Equipment, and methods of construction, transportation and operation; and

(3) Establish, maintain and comply with emergency safety and security procedures applicable to the Work.

If the Contractor or the employees, Subcontractors or agents of the Contractor damage third party property, the Contractor shall:

(a) Make good the damage; and

(b) Pay any compensation to such third party which the Contractor is required to pay under this contract or pursuant to any Applicable Law.

(c) Subject to clause (b), if the Contractor fails to make good such damage or pay any compensation referred to in clause (b) within the time reasonably required by the Employer by notice in writing (which shall not less than fifteen (15) Business Days), the Employer may, by notice in writing to the Contractor remedy the damage at the sole risk and expense of the Contractor.

(d) If the Contractor fails to comply with obligation under this clause, the Employer may, in addition to any other remedy which the Employer may have, perform that obligation on the Contractor's behalf and any cost incurred by the Employer shall be a debt due and payable by the Contractor.

(e) The Contractor shall comply with employment equity act as issued by the Department of Labour.

4.1.2 BBBEE and preferencing scheme

The contractor shall maintain the same BBBEE status level or above during the period of the contract.

4.2 Subcontracting

4.2.1 Preferred subcontractors

Refer to clause 26 TSC3.

4.2.2 Subcontract documentation, and assessment of subcontract tenders

Refer to clause 26 of TSC3.

In addition, appointment of sub-contractors must at all times be in line with the PPPFA.

4.2.3 Limitations on subcontracting

Refer to clause 26 TSC3

4.2.4 Attendance on subcontractors

Refer to clause 26 TSC3

4.3 Plant and Materials

4.3.1 Specifications

The Contractor shall supply all plant necessary to ensure the provision of the Services in a manner that is in conformance with workplace Health and Safety Act. The Contractor shall ensure that all plant supplied by it is, and is maintained in, a condition that is in conformance with workplace Health and Safety act.

All Plant and Material shall conform to the SANS.

The contractor shall use Plant and Materials that are fit for purpose as may be specified in the SANS.

Design and specification shall always be discussed and agreed with the Service Manager.

4.3.2 Correction of defects

Defective Material and Equipment or Works

(a) Notwithstanding any previous test or certification, the Employer may, acting reasonably, instruct the Contractor to:

(1) Remove from the Site and replace any Materials and Equipment which are not in accordance with the Employer's requirement;

(2) Remove and re-execute any other work is not in accordance with the Employer's requirements.

(3) Execute any work which is urgently required for the safety of the Works, whether because of an accident, unforeseeable event or otherwise.

(b) The Contractor shall comply with the instruction within a reasonable time, which shall be the time (if any) specified in the instruction.

(c) If the Contractor fails to comply with any such instruction, the Employer shall be entitled to employ and pay other persons to carry out the work. Except to the extent that the Contractor would have been entitled to payment for work, the Contractor shall pay the Employer all costs arising from this failure.

4.3.3 *Contractor*'s procurement of Plant and Materials

The contractor:
(a) Shall supply:
(1) The Material and Equipment
(2) and anything else necessary for the performance of the Works.
(b) Equipment, spares and Materials: it will be expected that the prospective Contractor maintains an inventory of equipment, spares and materials or have access to those equipment, spares and materials without compromising response times.

4.3.4 Tests and inspections before delivery

The Employer is entitled to see any Materials and Equipment or attend any part of the Works that are to be tested and inspect the result of any Test.

Who conducts Test?

(a) Tests are to be conducted as indicated by the Employer/Service Manager/Employer representative.

(b) Testing required under this contract shall be carried out by appropriately qualified and skilled persons adequately trained for the tasks allocated to them.

(c) Tests shall be chosen and testing shall be carried out in the manner that shall cause the least possible damage to the Works.

(d) Tests specification shall be discussed and agreed with the Service Manager.

4.3.5 Plant & Materials provided “free issue” by the *Employer*

None

5 Working on the Affected Property

When planning to work on the affected property, the Contractor shall:

(a) Issue to the Employer a detailed work methodology, the work methodology shall be reviewed by the Employer and agreed in signing.
(b) At all times comply with the Operational Health, Safety & Environmental act as detailed on Annexure A.
(c) Notify in writing the Employer of the date and time of proposed work. Upon receiving the date and time of the proposed work the Employer shall within seven (7) days review the proposal and notify the Contractor about final decision.

Protection of the public
The Contractor shall take special care in order not to harm or endanger the public in any way. Work shall be sufficiently hoarded and guarded in order to safeguard children and the general public from injury relating to machinery, work or other means.

Barricades and lighting

Where hoarding, barricades or lighting is required in the execution of the Works, the Contractor shall provide same. Hoarding, barricades and lighting shall comply with industry accepted safety standards and may not be used for purposes of advertising or any other purpose than safeguarding the Works. All specifications in this regard shall be discussed and agreed with the Service Manager.

5.1 *Employer*'s site entry and security control, permits, and site regulations

Contractor should provide to his employees all necessary training, i.e. Airside Induction and AVOP required to obtain airside permits.

The Contractor must ensure that he/she is, at all times, familiar with ACSA's safety and security requirements relating to permits in order for no work to be delayed as a result thereof. This will include the permit application process.

Note that (within reason) the Contractor will have no claim against ACSA in the event that a permit request is refused.

Proof of having attended the airside induction training course is required for all personal permit applications. Persons applying for an AVOP must provide proof of having attended an AVOP course. Fees are levied for these courses. Fees are further levied for all permit renewals and refresher courses - where applicable.

5.2 People restrictions, hours of work, conduct and records

Restrictions and hours of work may apply at CTIA. It is very important that the Contractor keeps records of his people working on the Affected Property, including those of his Subcontractors. The Service Manager shall have access to these records at any time. These records may be needed when assessing compensation events.

5.3 Health and safety facilities on the Affected Property

Contractor shall comply to all requirements stated in Annexure A

5.4 Environmental controls, fauna & flora

The Contractor shall comply with the environmental criteria and constraints stated in Annexure B.

5.5 Cooperating with and obtaining acceptance of Others

The Contractor shall co-operate with others in obtaining and providing information which they may require in connection with the service. He shall co-operate with others and shares the Affected Property with them as stated in the Service Information.
The Contractor must accept and respect the fact that the Airport is continuously undergoing construction and improvement and that a variety of stakeholders are involved in ACSA's business. Therefore, within reason and with prior arrangement with the Contractor, ACSA might require the following from time to time:

- Assisting with emergency repairs;
- Re-scheduling of work to accommodate other contractors.
- Allowing access and providing assistance to OEM suppliers to correct defects on equipment and/or systems;
- Checking on other contractors in order to reduce risk;
- Pointing out services to consultants or other contractors;
- Providing access to other contractors;
- Attending co-ordination and planning meetings;
- Removing rubble and/or equipment from site;
- Training of ACSA operators and/or technicians;
- Providing of system data to ACSA or its consultants;
- Recommending improvement on maintenance procedures;
- Co-operating with ACSA Security relating to security initiatives.

Notification of Works needs to be issued to Airport stakeholders whenever there is planned work. The Contractor will inform the Service Manager regarding the Work Plan, The Service Manager shall be responsible for distributing the Notification of Work 7 days prior to commencement of work.

5.6 Records of *Contractor*'s Equipment

Service and Maintenance records of Contractor's vehicles and/or equipment shall be made available on request by Service Manager.

5.7 Equipment provided by the *Employer*

None

5.8 Site services and facilities

5.8.1 Provided by the *Employer*

Employer shall if and when required provide a power supply point, domestic waste disposal (no Hazardous waste) which the contractor will be required to pay for the installation and usage. Contractor will be shown nearest ablution facilities and will have to provide own fire protection systems. The contractor shall provide everything else necessary for providing the service.

5.8.2 Provided by the *Contractor*

Contractor shall if and when required provide own storage containers, provide all equipment required for the work at night and everything else necessary for Providing the Service.

5.9 Control of noise, dust, water and waste

See annexure B

5.10 Hook ups to existing works

5.11 Tests and inspections

5.11.1 Description of tests and inspections

Maintenance and service as per the OEM specification to ensure best functionality of the assets: 400V Switchboards, Power Transformers, Ring Main Units, MV switchgear including sub-components such as breakers, protection relays, instrument transformers, cables, DC battery tripping unit, Power factor correction unit, in order to minimize downtime, and ensure that the equipment performs at optimal levels and functions to specification at the specified areas.

The service provider's responsibilities will require compliance with organizational policy and procedures for the maintenance activities undertaken, and to report any problems with these activities. All defects highlighted and found during the works will be repaired under this contract. The brief scope and frequencies are as below:

Yearly maintenance tasks for electrical panels – 11 kV switchgear:

It shall be noted that after every Electrical Fault Incident, the equipment needs to be tested for integrity. Board Housing Panel:

- Check integrity of panel structure
- Clean panel
- Cabling and Termination Accessories:
- Visual inspection
- Continuity Test
- Speed Test
- Contact Resistance Test before it is re-commissioned.

Current and Voltage Transformers:

- Visual inspection
- Check alignment of (VT's)
- Check VT fuses.
- Test CT knee point voltage.
- Test for the CT saturation curve.
- Metering equipment:
- Calibration and testing protection equipment: (Relays, Transducers, Communication Devices etc.)
- Calibration and Testing
- Ensure that the protection settings are according to design.
- Ensure Earth fault indicator and CTs are fully operational.
  Indication lighting:

Protection equipment: (Relays, Transducers, Communication Devices etc.)

- Calibration and testing of relays.
- Primary and secondary injection testing
- Earth fault trip tests
- Overcurrent fault trip test
- Record protection settings
- Relay functionality tests

Battery Tripping Unit:

- Clean tripping batteries and terminals
- Replace batteries with maintenance free batteries. Ensure installation date is clearly labelled on battery and next replacement date is highlighted.
- Top up cells with distilled water
- Check battery charger for loose connections and tighten if required.
- Check if the charger is operational.
- Ensure Trickle/Float charge is operational.
- Ensure Quick/Boost charge is operational.
- Ensure Normal charge is operational.
- Check for any battery alarms and clear them.
- Measure and record battery voltage.
- Check Amp/Volt meters for proper operation.
- Test for functionality.
  Refer D060 006M Maintenance of electricity backup systems.

MV Cables and Termination accessories maintenance:

- Check for proper earthing and earth connections.

- Ensure proper support and clamping for vertical portions of laid cables.
- Ensure terminations have no excessive tension.
- Clean box and terminations of dust and moisture
- Ensure no arcing or tracking occurred.
- Cable joints and terminations to be done on adhoc basis.
- Cable fault's location will be done on adhoc basis.
- Cable pressure testing will be done on adhoc basis

Two (2) Yearly maintenance tasks for electrical panels – 11 kV Switchgear:

- Cleaning and torquing of Bus-Bar Conductors
- Cleaning
- Check for alignment, re-grease.
- Check for tolerances and vibration.

Yearly maintenance tasks for mini substations (MSB)

- Labelling:
- Check if general signage is still attached to LV Door
- Check mini substation labelling, if the name stencilled on the outside of the mini sub, as well as the inner side of the LV door, is done according to the labelling standard.
- Check the incoming MV labelling if it is according to labelling standard.
- Check the outgoing MV labelling if it is according to labelling standard.
- Check LV cable labelling.
- Are warning notices on MV side visible and acceptable.
- Are warning notices on LV side visible and acceptable.
- Check that colour coding was attached to left hand side of inner cubicle in MV side.

- Mechanical (Minisub)
- Check the condition of MV compartment doors.
- Check the condition of LV doors.
- Check condition of pad locks and if they are available on the MV door side.
- Check condition of padlocks and if they are available on the LV door side.
- Are all locking devices still in good condition?
- Are safety devices fitted to MV & LV doors?
- Check the condition of the cooling fins.
- Check for grass and vermin proofing still in good condition.
- Check for any visible holes that can lead to unauthorised access and blanked off with a plain rivet or device suitable to overcome the problem.
- Check if roof bolts are still in tack and no open gaps visible.
- Check for operating handles available on site.

- Oil (Minisub)
- Check oil leaks on the MV bushings.
- Check oil leaks on the LV bushings.
- Check oil leaks on the Switchgear.
- Check oil level on the transformer.
- Check the condition of oil level indicator.
- Check the condition of the oil breather.
- Check the condition of the silica gel and replace where necessary.
- Check the condition of oil level on the Switchgear.

- Check for gas pressure (where applicable)
- Breakers/Fuses (Minisub)
- Check if all safety barriers are still in position and no live connections exposed.
- Check for hot connections with infra-red scanning.
- Check (Visual Inspection) for loose connections on the LV breakers.
- Check MV safety barrier fitted.
- Check (Visual Inspection) the neutral for any loose connections.
- Check if phase barrier boards are fitted between phases.
- Check if safety sign is installed on safety barrier.
- Check and/or Test for fuses if in good condition.
- Check overall condition of mini sub inside and outside.
- Check if tap-changer is locked.
- Check for grass and weeds on outer side of Mini substation that needs to be removed.
- Check for back-filling if it needs attention.
- Check for interface seal if intact.
- Check for corona discharge.
- Operation of tap changers
- Painting of corroded Mini Substation boxes
- Repairing of oil leaks
- Correct operation of circuit breakers
- Replacement of fuses where applicable
- Repairing of corroded or broken mini substation enclosures
- Fitting and cleaning of Perspex covers, covering live busbars.
- Check for hot connection on LV side.
- Check LV breakers if mounted properly.
- Check/test for loose connections on the LV breakers.
- Check the neutral for any loose connections.
- Check or test fuses if they are in a good condition After the Annual Service, a Service Report per Mini-Substation shall be submitted to the organisation.
- Check transformer earthing to be intact.
- Check earthing on MV cables.
- Check earthing on all LV cables.
- Check earthing on the mini substation housing to be intact.
- Check status and condition of earth fault indicator (where applicable)
- Test the neutral for any loose connections.
- Conduct oil sampling and send to SANAS approved laboratory for analysis.

Circuit Breakers:

- The tasks listed are high level /minimum tasks. The contractor is expected to complete all tasks as OEM requirements, scope of works on the contract and as listed on the approved inspection sheet.
- Test the functional performance of the SF6/vacuum circuit breaker (If installed)
- Clean the switch of the SF6/vacuum circuit breaker (If installed)
- Lightly lubricate the operating mechanism of the SF6/vacuum circuit breaker (If installed)
- Conduct Ductor test on contacts.

Yearly Maintenance Tasks for Ring Main Unit (RMU)

Labelling:

- Check if general Signage is still attached.

- Check RMU labelling, if the name stencilled on the outside and inside and that it is done according to the correct labelling standard.
- Check the incoming MV labelling if it is according to correct.
- Check the outgoing MV labelling if it is according to correct labelling standard.
- Check LV labelling.
- Are warning notices on MV side visible and acceptable.
- Are warning notices are visible and acceptable.
- Check that colour coding on the inner cubicle in MV side.

Mechanical:

- Check the condition of MV compartment doors.
- Check the condition of LV doors.
- Check if locks are available on the MV door side.
- Check if locks are available on the LV door side.
- Are all locking devices still in good condition?
- Are safety devices fitted to MV & LV doors?
- Check for grass and vermin proofing still in good condition.
- Check for any visible holes that can lead to unauthorized access and blanked off with a plain rivet or device suitable to overcome the problem.
- Check if roof bolts are still intact and no visible open gaps.
- Check for operating handles available on site.

Oil/Gas:

- Check oil leaks.
- Check the condition of oil level on the Switchgear (where applicable)
- Check for SF6 gas pressure (where applicable)
- Breakers / Fuses
- Check if all safety barriers are still in position and no live connections exposed.
- Check for hot connections on MV side.
- Check (Visual Inspection) for loose connections on the LV breakers.
- Check if MV safety barrier fitted.
- Check (Visual Inspection) the neutral for any loose connections.
- Check if phase barrier boards are fitted between phases.
- Check if safety sign is installed on safety barrier.
- Check and/or test for fuses if in good condition.
- Check overall condition of mini sub inside and outside.
- Check if tap-changer is locked.
- Check for grass and weeds on outer side of mini sub that needs to be removed.
- Check for backfilling if it needs attention.
- Check for interface seal if intact.

Yearly Maintenance Tasks for Electrical Panels – Switchboard LV – 400V (SBD):

- Visual Inspection:
- Inspect panel for missing labels.
- Inspect panel meters for correct operation.
- Inspect protection relays for fault flags.
- Inspect earth wire for corrosion.
- Verify all labels for correct identification.
- Inspect panel for signs of rust or damage.
- Inspect labels for looseness.
- Clean bus bars

- Conduct thermographic inspection of bus bar.
- Test operation of protection circuits
- Ensure that the protection circuit trip settings are correct.
- Inspect (Visually) check breaker frame.
- Inspect Visually) Fixed contacts.
- Visually inspect Arc – chutes
- Visually Inspect Escutcheon
- Visually Inspect Moving contacts
- Inspect Front cover.
- Interphase barriers
- Inspect visually Insulation blocks.
- Interphase barriers
- Inspect visually Insulation blocks.
- Visually Inspect Escutcheon

Weekly Maintenance Tasks for Electrical – Transformers (TRF): -

By Authorized Personnel Only

Oil Transformer – Minor Maintenance:

- Over-all visual inspection
- Inspection for oil leaks, active silica gel colour and any flags on the protection devices
- Inspection of excessive heat generation (NOTE: Applicable only where there is a thermistor)
- Inspection of tap changer locked (If unlocked do not move the tap changer dial but arrange for a shutdown and ensure the tap is in the right position and lock it) N.B. Never move the Tap Changer while the transformer is on/live.
- Check temperature gauge and record the temperature.

Dry Type Transformer (if applicable): Minor Maintenance:

- Over-all visual inspection
- Inspection of excessive heat generation
- Inspection of tap changer locked (If unlocked do not move the tap changer dial but arrange for a shutdown and ensure the tap is in the right position and lock it) N.B. Never move the Tap Changer while the transformers are on/live.
- Check temperature gauge and record the temperature.

Yearly Maintenance Tasks for Electrical – Transformers (TRF):

By Authorized Personnel Only Oil Transformer – Major Maintenance:

- Check oil levels according to the SANS 555
- Transformer oil tests and analysis; (If PCBs are present remove and replace the oil immediately); and the PCB contaminated oil shall be safely disposed of: SANS 290 provides guidelines for the management of PCB in mineral insulating oils.,
- Functionality test of protection warning and/or trip signal,
- Inspection of high voltage cable insulation,
- Inspection of earthing and its resistance
- When determined in accordance with either IEC 61619, the PCB content of unused mineral insulating oils shall be undetectable – SANS 555

- When tested in accordance with either IEC 61619, the PCB content of reclaimed mineral insulating oils shall not be more than 20 mg/kg – SANS 555 8) Inspection for rust, corrosion, or defective coating; cleaned and painted,
- Ensure that warning signs and safety devices are present and in correct positions.
- Scan the transformer terminations with an infra-red tester to check for abnormal “Hot Spots” and
- Inspect the silica gel and ensure it is compliant.

Dry Type Transformer (if applicable) – Major Maintenance Activities

- Functionality test of protection warning and/or trip signal,
- Inspection of high voltage cable insulation,
- Inspection of earthing and its resistance
- Inspection for rust, corrosion, or defective coating; cleaned and painted,
- Ensure that warning signs and safety devices are present and in correct positions Scan the transformer with an infra-red tester to check for abnormal “Hot Spots” and repair as required.

Maintenance Tasks for Power Factor Correction Equipment (PFC):

Weekly - Minor Maintenance:

- Inspect for blown fuses and replace the blown fuse immediately with identical or equivalent parts 2) Check the cooling fans for proper operation.
- Inspect contactors for proper operation.
- Inspect capacitors and connection.

Yearly - Maintenance:

- Inspect panel for missing labels.
- Inspect panel meters for correct operation.
- Inspect power factor correction (PFC) controller.
- Inspect earth wire for corrosion.
- Clean the dust filters and clean dust off the equipment in the unit.
- Test and compare the PFC Unit for any “drift” and calibrate as required.
- Test and compare the kVar Output to designed specification kVar Output
- Check Amp / Volt meters for proper operation.
- Verify all labels for correct identification.
- Inspect panel for signs of rust or damage.
- Inspect labels for looseness.
- Clean bus bars
- Conduct thermographic inspection of bus bar.
- Test operation of protection circuits
- Ensure that the protection circuit trip settings are correct.

Maintenance Tasks for Circuit Breakers (VCB and SF6 Gas)

Monthly Maintenance activities – SF6 Circuit Breakers

- Ensure that all the circuit breaker signage is intact.

- Emergency exit is clear.
- Lowering of switchgear is locked.
- Visually ensure that the circuit breaker is on remote.
- Ensure that where there are two (2) in feeds and possibility of parallel transformers, the access to trip is locked.
- Inspect and record the breaker status.
- Record voltage average.
- Record current average.
- Record power factor average.
- Visually Inspect all panel lights.
- Visually inspect operation of the voltmeters (analog).
- Visually inspect operation of amp meters (analog).
- Visually inspect operation of MiCOM relay.
- Visually Inspect gas pressure level.
- Visually inspect arc protection settings.

Yearly Maintenance activities – SF6 Circuit Breakers

- Trip test
- Ensure that the auto trip, close and trip illuminations are working.
- Gas pressure checks and refill.
- Cable box checks and repairs.
- Auxiliary box check and repairs.
- General cleaning with approved equipment.
- Earthing checks and repairs.
- Ensure safety.

Three (3) Yearly Maintenance activities – SF6 Circuit Breakers

- Trip test
- Ensure that the auto trip, close and trip illuminations are working.
- Gas pressure checks and refill
- Cable box checks and repairs
- Auxiliary box check and repairs
- General cleaning with approved equipment
- Earthing checks and repairs
- Ensure safety.
- Inspect and service selectors to allow breakers to be operated remotely with the umbilical cord.
- Inspect and service / repair battery Business Units from where the DC supply is fed from to ensure sufficient voltage required to the protection and selector items on the protection panels.
- Inspect and service protection relays and remote controls.

Six (6) Yearly Maintenance activities – SF6 Circuit Breakers

- Trip test
- Ensure that the auto trip, close and trip illuminations are working.
- Gas pressure checks and refill
- Cable box checks and repairs
- Auxiliary box check and repairs
- General cleaning with approved equipment
- Earthing checks and repairs
- Ensure safety.
- Inspect and service selectors to allow breakers to be operated remotely with the umbilical cord.

- Inspect and service / repair battery Business Units from where the DC supply is fed from to ensure sufficient voltage required to the protection and selector items on the protection panels.
- Inspect and service protection relays and remote controls.
- Conduct busbar maintenance.
- Breaker chamber maintenance
- CT Chamber maintenance
- Ductor test on busbars

Monthly Maintenance activities – Vacuum Circuit Breakers (VCB)

- Ensure that all the circuit breaker signage Is intact.
- Emergency exit is clear.
- Lowering of switchgear is locked.
- Visually ensure that the circuit breaker is on remote.
- Ensure that where there are two in feeds and possibility of parallel transformers, the access to trip is locked.
- Inspect and record the breaker status.
- Record voltage average.
- Visually inspect operation of MiCOM relay
- Visually Inspect gas pressure level
- Record current average.
- Record power factor average.
- Visually inspect arc protection settings

Yearly Maintenance activities – Vacuum Circuit Breakers (VCB)

- Trip test
- Ensure that the auto trip, close and trip illuminations are working.
- Vacuum interrupters check.
- Primary contact resistance check
- Inspect and service closing solenoid.
- Trip solenoid, check adjust and lubricate.
- Interlocks check, lubricate.
- Service and maintain Electrical mechanism.

Three (3) Yearly Maintenance activities – Vacuum Circuit Breakers (VCB)

- Trip test
- Ensure that the auto trip, close and trip illuminations are working.
- Vacuum interrupters check.
- Primary contact resistance check
- Inspect and service closing solenoid.
- Trip solenoid, check adjust and lubricate.
- Interlocks check, lubricate.
- Service and maintain Electrical mechanism.
- Inspect and service selectors to allow breakers to be operated remotely with the umbilical cord 9) Inspect and service / repair battery tripping units from where the DC supply is fed from to ensure sufficient voltage required to the protection and selector items on the protection panels.
- Inspect and service protection relays and remote controls.

Six (6) Yearly Maintenance activities – Vacuum Circuit Breakers (VCB)

Trip test

- Ensure that the auto trip, close and trip illuminations are working.
- Vacuum interrupters check.

- Primary contact resistance check
- Inspect and service closing solenoid.
- Trip solenoid, check adjust and lubricate.
- Interlocks check, lubricate.
- Service and maintain Electrical mechanism.
- Inspect and service selectors to allow breakers to be operated remotely with the umbilical cord.
- Inspect and service/repair battery tripping units from where the DC supply is fed from to ensure sufficient voltage required to the protection and selector items on the protection panels.
- Inspect and service protection relays and remote controls.
- Conduct busbar maintenance.
- Breaker chamber maintenance
- CT Chamber maintenance
- Ductor test on busbars

Supply of spares

- The contractor will be required to purchase spares from time to time which will be stored on-site.
- Contractor will apply a mark-up where the supplied spares was purchased from third party.

Minor CAPEX Projects includes the following but not limited to:

- Circuit breakers upgrade
- Power factor correction unit replacement
- Battery tripping unit
- MV Cable replacement
- Protection relays upgrade and load flow studies

5.11.2 Materials facilities and samples for tests and inspections

Responsibilities for Materials facilities, test methods, and required inspection will be discussed and agreed between the Contractor and Employer.

6 List of drawings

6.1 Drawings issued by the *Employer*

This is the list of drawings issued by the *Employer* at or before the Contract Date and which apply to this contract.

Drawing number	Revision	Title

Annex C:

C1.4 Insurance Schedule
Summary of Terms and other Matters Applicable to Employer Provided Insurance
Part 1:
Notes to Schedule:
• • The provision of insurance by the *Employer* does not limit the obligations, liabilities or responsibilities of the *Contractor* under this contract in any way whatsoever (including but not limited to any requirement for the provision by the *Contractor* of any other insurances).
• • Unless specifically otherwise stated, capitalised terms in this schedule (other than *Employer*, *Contractor* and *works* where written in italics) have the meaning assigned to them in the relevant policy of insurance.
• This Insurance Schedule is a generic term sheet generally applicable to the *Employer's* projects. In the circumstances: o If this Insurance Schedule reflects the amount of any cover provided by the *Employer* to be higher than the amount required in the Contract Data, the *Employer*'s obligation under this Contract is limited to the lower amount; and
o If this Insurance Schedule provides for any cover which is not stated to be provided by the *Employer* in the Contract Data, the *Employer*'s obligation under this Contract is limited to the cover stated in the Contract Data.

• [The terms governing the Employer provided policies of insurance are the terms detailed in the policies themselves. This schedule is merely a summary of the key terms. It is the responsibility of the tenderer to obtain copies of the policies and satisfy itself of the actual terms as required by the tenderer.]

Part 2:
ACSA Maintenance Contracts Insurance Clause.
Insurance Affected by the Employer.
Notwithstanding anything elsewhere contained in the Contract and without limiting the obligations liabilities or responsibilities of the Contractor in any way whatsoever (including but not limited to any requirement for the provision by the Contractor of any other insurances) the Employer shall effect and maintain as appropriate in the joint names of the Employer , Contractors and Sub-Contractors, Consultants and Sub-Consultants the following insurances which are subject to the terms, limits, exceptions and conditions of the Policy:
(a) PUBLIC LIABILITY Insurance – which will provide indemnity against the insured parties legal liability in the event of accidental death of or injury to third party persons and/or accidental loss of or damage to third party property arising directly from the execution of the contract with a limit of indemnity of R 100 million in respect of all claims arising from any one occurrence or series of occurrences consequent on or attributable to one source or original cause. The policy will be subject to a Deductible of R25 000 for Property Damage claims only but R250 000 where Loss or Damage involves Aircraft.
i (i) The Employer shall pay any premium due in connection with the insurance affected by the Employer.

(ii) The Contractor shall not include any premium charges for this insurance except to the extent that he may deem necessary in his own
interests to effect supplementary insurance to the insurance effected by the Employer. The Employer reserves the right to call for full information regarding insurance costs included by the Contractor.

(iii) Any further clarification of the scope of cover provided by the Policies arranged by the Employer should be obtained from the Employer .
(iv) In the event of any occurrence which is likely to or could give rise to a claim under the insurances arranged by the Employer the Contractor shall:
(A) in addition to any statutory requirement or other requirements contained in the Contract immediately notify the Employer's Insurance Broker or the Insurers by telephone or telefax giving the circumstances nature and an estimate of the loss or damage or liability
(B) complete a Claims Advice Form available from the Insurance Brokers to whom the form must be returned without delay.
(C) negotiate the settlement of claims with the Insurers through the Employer's Insurance Brokers and shall when required to do so obtain the Employer's approval of such settlement.
The Employer and Insurers shall have the right to make all and any enquiries to the site of the Works or elsewhere as to the cause and results of any such occurrence and the Contractor shall co-operate in the carrying out of such enquiries.
(v) The Contractor will be liable for the amount of the Deductible (First Amount Payable in respect of any claim made by or against the Contractor or Sub-Contractors under the insurances effected by the Employer.
Where more than one Contractor is involved in the same claim the Deductible will be borne in pro-rata amounts by each Contractor in proportion to the extent of each Contractor's admitted claim.
(vi) Any amount which becomes payable to the Contractor or any of his Sub-Contractors as a result of a claim under the Contact Works Insurance shall if required by the Employer be paid net of the Deductible to the Employer who shall pay the Contractor from the proceeds of such payment upon rectification repair or reinstatement of the loss or damage but this provision shall not in any way affect the Contractor's obligations liabilities or responsibilities in terms of the Contract.
In respect of any amount which becomes payable as a result of a claim under any Public Liability Insurance the Contractor, or his Sub-Contractors shall be required to pay the amount of the Deductible to the Insurer to facilitate settlement of such claim.
Insurance Affected by the Contractor.
Without in any way detracting from any requirements contained elsewhere in this contract the Contractor and Sub-Contractors shall where applicable, provide as a minimum the following:
(a) INSURANCE OF CONTRACTORS EQUIPMENT (including tools offices and other temporary structures and contents) and other things (except those
intended for incorporation into the Works) brought onto the Site for a sum sufficient to provide for their replacement.
(b) Insurance in terms of the provisions of the Compensation for Occupational Injuries and Diseases Act No. 130 of 1993 as may be amended or in terms of any similar Workers Compensation and Unemployment Insurance enactments in the Suppliers' or Sub Supplier's operational, manufacturing or assembly locations.
(c) Motor Vehicle Liability Insurance comprising (as a minimum) "Balance of Third Party" Risks including Passenger Liability indemnity.
(d) Public Liability Insurance for an amount sufficient to cover the Contractors obligations in terms of the Deductible of R25 000 or R250 000 as stated above.

(i) The insurances to be provided by the Contractor and his Sub-Contractors shall:
(A) be affected with Insurers and on terms approved by the Employer.
(B) be maintained in force for whatever period the perils to be insured by the Contractor are at risk (including any defects liability period during which the Contractor is responsible for the care of the Works)
(C) submit to the Employer the relevant Policy or Policies of Insurance or evidence acceptable to the Employer that such insurances have been affected.
(ii) In the event that the Contractor or his Sub-Contractor receives any notice of cancellation or restrictive modification to the insurance provided to them they shall immediately notify the Employer in writing of such cancellation or restriction and shall advise what action the Contractor or his Sub-Contractor will take to remedy such action.
If the Contractor fails to effect and keep in force the insurances referred to then the Employer may effect and keep in force any such insurances and pay such premium or premiums as may be necessary for that purpose and from time to time deduct the amount paid by the Employer from any monies due or which may become due to the Contractor or recover same as a debt from the Contractor.
Sub-Contractors
The Contractor shall:

(a) ensure that all potential and appointed Sub-Contractors are aware of the whole contents of this clause, and
(b) enforce the compliance by Sub-Contractors with this clause where applicable."

1. Annex 1: Equipment Schedule List of Substations

11KV Substations		
Item No.	**Name of Substation**	**Location**
1	Power & Lighting Substation	Power & Lighting – Fox 3
2	Alpha Substation	Terminal - delivery goods area
3	2 Alpha Substation	Next to FedEx
4	North Substation	Terminal North
5	South Substation	Terminal South
6	Terminal 1 Substation	Next to VIP Protocol
7	Terminal 5 Substation	North of SOB
8	Basement Substation	Basement – next to international arrivals
9	SOB Substation	South side of SOB
10	Parkade 1 Substation	Landside - Parkade 1
11	Parkade 2 Substation	Landside - Parkade 2
12	Air franc Substation	Airfield close to RWY 19
13	Substation 19	Airfield
14	Substation 01	Airfield close RWY 01
15	S Band Substation	Airfield/ airside mid of RWY 01/29
16	Vortac Substation	Airfield/ airside mid of RWY 01/29
17	Clover Substation	Remote site Landside - Clover
18	Oval Park Substation	Landside – Next to CTX
19	Swartklip Substation	Swartklip
20	SA Cargo Substation	Cargo area

2. List of Transformers at Substations

Location	Asset Name Description	Size (Voltage)	Size [kVA]	Cooling	Current Loading [kVA]	Manufacture	Manufact. Year
Basement	Sub/T2 Trfr1	11000/415V	1 600	Oil	83.98A	DPM/PTT//NEI	1999
Basement	Sub/T2 Trfr2	11000/415V	1 600	Oil	83.98A	DPM/PTT//NEI	1999
Basement	Sub/T2 Gen Trfr	3300/400V	315	Oil	55.1A	Associated Trfs	2006
North Sub	Trfr HVAC N1	11000/415V	1 250	Oil	65.5A	DPM/PTT//NEI	2007
North Sub	Trfr HVAC N2	11000/415V	1 250	Oil	65.5A	DPM/PTT//NEI	2007
North Sub	Trfr HVAC N3	11000/415V	1 250	Oil	65.5A	DPM/PTT//NEI	2007
North Sub	Trfr N3	11000/415V	1 250	Oil	65.5A	DPM/PTT//NEI	2007
North Sub	Trfr N2	11000/415V	1 250	Oil	65.5A	DPM/PTT//NEI	2007
North Sub	Trfr N1	11000/415V	1 250	Oil	65.5A	DPM/PTT//NEI	2007
Outside Airfranc	Outside Air Frank Substation x 1	11000/400V	315	Oil			2012
Oval	Oval Sub Trfr 1	11000/420V	1 250	Oil	62.8A	DPM/PTT//NEI	1999
Parkade 1	Parkade 1 Sub Trfr 1	11500/400V	800	Oil	40.2A	DPM/PTT//NEI	2008
Parkade 2	Parkade 2 Sub Trfr 1	11500/400V	630	Oil	31.63A	Associated Trfs	2005
Parkade 2	Parkade 2 Sub Shell	12220/420V	500	Oil	A	DPM/PTT//NEI	2005
Power & Lighting	Power &Lighting Sub Trfr 2 S/Up	400/11000V	1 000	Oil	52.5A	Electro inductive	1978
Power & Lighting	Power &Lighting Sub Trfr 1 S/Down	11000/400V	1 000	Oil	52.5A	Electro inductive	2005
Power & Lighting	Power &Lighting Sub Trfr 2 S/Down	11000/400V	1 000	Oil	52.5A	Electro inductive	2005
Power & Lighting	Power &Lighting Sub Trfr 1 S/Up	400/11000V	1 000	Oil	52.5A	Electro inductive	2016
S band	S band Sub Trfr 2	11500/400V	315	Oil	16.5A	DPM/PTT//NEI	1981
S band	S band Sub Trfr 1	11500/400V	315	Oil	16.5A	DPM/PTT//NEI	1982
SOB	SOB Sub Trf1	11500/420V	800	Oil	40.2A	DPM/PTT//NEI	2000
South	South Sub Trfr 1	11000/415V	1 250	Oil	65.5A	DPM/PTT//NEI	2007
South	South Sub Trfr 2	11000/415V	1 250	Oil	65.5A	DPM/PTT//NEI	2007
South	South Sub Trfr 3	11000/415V	1 250	Oil	65.5A	DPM/PTT//NEI	2007
South	South Sub Trfr 4	11000/415V	1 250	Oil	65.5A	DPM/PTT//NEI	2007
South	South Sub Trfr 5	11000/415V	1 250	Oil	65.5A	DPM/PTT//NEI	2007
South	South Sub Trfr 6	11000/415V	1 250	Oil	65.5A	DPM/PTT//NEI	2007
Sub 01	Sub 01 Trfr 1 Inside	11000/420V	500	Oil	26.2A	DPM/PTT//NEI	2004
Sub 01	Sub 01 Trfr 2 Inside	11000/420V	500	Oil	26.2A	DPM/PTT//NEI	2004
Sub 19	Sub 19 Trfr 2 Inside		500	Oil	26.2A	DPM/PTT//NEI	2004
Sub 19	Sub 19 Trfr 2 Radar	3300/400V	200	Oil	35A	DPM/PTT//NEI	2004
Sub 19	Sub 19 Trfr 1 Inside	11000/400V		Oil	26.2A	DPM/PTT//NEI	2004
Sub 19	Sub 19 Trfr 1 Radar	3300/400V	200	Oil	35A	DPM/PTT//NEI	2004
Sub 19	Sub 19 Trfr 1 Airfranc	11000/400V	315	Oil	16.5A	DPM/PTT//NEI	2012
Tacan	Tacan Sub Trfr 1	11000/400V	100	Oil	16.5A	DPM/PTT//NEI	2004

Terminal 1	Terminal 1 Sub Trfr 1	11275/400V	1 600	Oil	81.93A	DPM/PTT//NEI	1999
Terminal 1	Terminal 1 Sub Trfr 2	11275/400V	1 600	Oil	81.93A	DPM/PTT//NEI	1999
Terminal 1	Terminal 1 Sub Gen Trfr	3300/400V	315	Oil	55.1A	Associated Trfs	2006
Terminal 5	Terminal 5 Sub Trfr 1	11000/400V	1 000	Oil	52.5A	DPM/PTT//NEI	2016
Terminal 5	Terminal 5 Sub Trfr 2	11000/400V	1 000	Oil	52.5A	DPM/PTT//NEI	2016
Swartklip Sub							
Swartklip Sub							
SA Cargo	Cargo area close to North	11000/400V	750	Oil	37,2	South Wales	1973
SA Cargo	Cargo area close to North	11000/400V	750	Oil	37,2	South Wales	1973
Transmitters	Transmitter No. 1 Transformer	11000/400V	100	Oil			
Transmitters	Transmitter No. 1 Transformer	11000/400V	100	Oil			
Total Quantity = 47							

3. List of MV Circuit Breakers (VCB & SF6 Gas)

Substation	Quantity	Make	Model	Rating	Imax	Manufactured Year
Supply	8					
North	3	ABB	Safeplus	52.5kA	630	2008
Oval Sub	3	ABB	Safering	21kA	630A	2006
Parkade1	3	ABB	Safering	21kA	630A	2006
Parkade2	3	ABB	Safering	21kA	630A	2006
Pick n Pay / Clover	5	ABB	Safeplus	25kA	1250A	
Power & Lighting	11	Alstom	AGVB/800/20-S	20kA	800A	1999
Power & Lighting	2	Alstom	SBV4-800-20-S1	20kA	800A	2006
S/BAND	4	Alstom	AGVB/800/20-S	20kA	800	2006
SOB Sub	3	MerlinGerin		40kA	630A	
South	1	ABB	Safeplus	52.5kA	630A	2008
Sub 01	4	Alstom	AGVB/800/20-S	20kA	800A	2006
Sub 19	7	Alstom	AGVB/800/20-S	20kA	800A	2006
Sub 2A	8	ABB	Unigear	25kA	1250A	2007
Sub Alpha	17	ABB	Unigear	80kA	1250A	2006
TACAN	3	Alstom	AGVB/800/20-S	20kA	800	2006
Terminal 1	4	ABB	Safering	21kA	630A	2006
Terminal 2 Basement	4	ABB	Safering	21kA	630A	2006
Terminal 5	4	ABB	Safering	21kA	630A	2006
IT Data Centre 3-way RMU	1					
Outdoor 3-way RMU Suffering	28	ABB	Safering	21kA	630A	2006
Total Quantity = 126						

4. List of 400V Panels and Circuit breakers = 99

Power and lighting 400V Circuit Breakers					
Description	**Make**	**Model**	**Serial no**	**Rating**	**Imax**
Generator Control	Deep Sea Electronics	DSE8610			
Step Up Transformers 1 & 2	Schneider Electric master pact	NT16 H1	S-14169/S-14171	42kA	1600
UPS Incomer Panel 2	Schneider Electric master pact	NT16 H1	S-14170	42kA	1600

UPS Incomer Panel 1	Schneider Electric master pact	NT16 H1	S-14165	42kA	1600
Transformer 1 Incomer	Schneider Electric master pact	NT16 H1	S-13370	42kA	1600
Bus Section 1	Schneider Electric master pact	NT16 H1	S-14160	42kA	1600
UPS Feeders 2	Schneider Electric master pact	NT16 H1	S-14167/S-14166	42kA	1600
UPS Feeders 1	Schneider Electric master pact	NT16 H1	S-14159/S-14186	42kA	1600
AGL Feeder 1	Schneider Electric master pact	NT16 H1		42kA	1600
Generator 1 Incomer	Schneider Electric master pact	NT16 H1	S-14161	42kA	1000
Generator 2 & 3 Incomer	Schneider Electric master pact	NT16 H1	S-14162/S-14163	42kA	1000
Bus Section 2	Schneider Electric master pact	NT16 H1	S-14164	42kA	1600
Transformer 2 Incomer	Schneider Electric master pact	NT16 H1	S-14158	42kA	1600
Power Factor Correction	Vishay ESTAmat	PFC 6			

North Sub 400V Circuit Breakers					
Description	**Make**	**Model**	**Serial no**	**Rating**	**Imax**
Power Factor 1					
Retail Concourse	Merlin Gerin				
Baggage Sortation	Merlin Gerin				
Transformer 1 incomer	Merlin Gerin	NW20H1	S-11072	65kA	2000
Bus Coupler 1	Merlin Gerin	NW20HA	S-11073	50kA	2000
Transformer 2 incomer	Merlin Gerin	NW20H1	S-11074	65kA	2000
Bus Coupler 2	Merlin Gerin	NW20HA	S-11075	50KA	2000
Transformer 3 incomer	Merlin Gerin	NW20H1	S-11076	65kA	2000
Gen 1 Changeover	Merlin Gerin	NW20H1	S-11077	65kA	2000
Gen Extension					
North Sub Local DB	Merlin Gerin				
Airline lounge					
Baggage Area					
Power Factor 2					
Transformer HVAC 1	Merlin Gerin	NW20H1	S-11079	65kA	2000
Gen 2 Changeover	Merlin Gerin	NW20H1	S-11080	65kA	2000
Gen 2 extension					
Gen 2 Baggage					
Gen 2 HVAC north	Merlin Gerin	NW20H1	S-11082	65kA	2000
Transformer HVAC MDB					
AC DB 1.3					
MDP North Sub HVAC	Merlin Gerin	NW20H1	S-11083	65kA	2000
Gen 3 Changeover	Merlin Gerin	NW20H1	S-11084	65kA	2000
Gen 3 Extension					
Gen 3 HVAC ESS					

South Sub 400V Circuit Breakers					
Description	**Make**	**Model**	**Serial no**	**Rating**	**Imax**

Power Factor 1					
Baggage Sortation	Merlin Gerin				
Woolworths	Merlin Gerin				
Domestic Arrivals Lounge	Merlin Gerin				
Transformer S1	Merlin Gerin	NW20H1	S-11086	65kA	2000
Bus Coupler 1	Merlin Gerin	NW20HA	S-11087	50kA	2000
Transformer 2 incomer	Merlin Gerin	NW20H1	S-11088	65kA	2000
Bus Coupler 2	Merlin Gerin	NW20HA	S-11089	50Ka	2000
Transformer 3 incomer	Merlin Gerin	NW20H1	S-11091	65kA	2000
Gen 3 Changeover	Merlin Gerin	NW20H1	S-11093	65kA	2000
Gen Extension					
Spare					
Gen 3 Domestic Departures					
Baggage Sortation	Merlin Gerin				
Power Factor 2					
Transformer HVAC S3	Merlin Gerin	NW20H1	S-11095	65kA	2000
HVAC 3 Extension					

Terminal 1 Sub 400V Circuit Breakers					
Description	**Make**	**Model**	**Serial no**	**Rating**	**Imax**
Feeder Panel					
Power Factor Correction 1	Vishay	PFC 12			
Incomer 1	ABB	SACE E3	S-11463	65kA	2500
Bus coupler	ABB	SACE E3	S-11464	65kA	2500
Incomer 2	ABB	SACE E3	S-11465	65kA	2500
Power Factor Correction 2	Vishay	PFC 12			

Terminal 2 / Basement Sub 400V Circuit Breakers					
Description	**Make**	**Model**	**Serial no**	**Rating**	**Imax**
Feeder Panel					
Power Factor Correction 1	Vishay	ESTAmat			
Incomer 2	ABB	SACE E3	S-11460	65kA	2500A
Bus coupler	ABB	SACE E3	S-11461	65kA	2500A
Incomer 1	ABB	SACE E3	S-11462	65kA	2500A
Power Factor Correction 2	Vishay	ESTAmat			
Feeder Panel - International A/C					
Gen Change over panel	Cutler Hammer	CD/MDL	1483D43603		

Terminal 5 Sub 400V Circuit Breakers

Description	Make	Model	Serial no	Rating	Imax
Power Factor Correction 2	Vishay	ESTAmat PFC 12			
Power Factor Correction 1	Vishay	ESTAmat PFC 13			
Transformer 2 Incomer	Merlin Gerin Master pact	NT16H1	S-11455	42kA	1600A
Bus coupler	Merlin Gerin Master pact	NT16H1	S-11454	42kA	1600A
Transformer 1 Incomer	Merlin Gerin Master pact	NT16H1	S-11456	42kA	1600A
Feeder Panel 1		NT16H1	S-11458	42kA	1600A
Feeder Panel 2		NT16H1	S-11459	42kA	1600A
Feeder Panel 3		NT16H1	S-11460	42kA	1600A
Gen Change over panel	Merlin Gerin Compact	NS630N		85kA	630A

Parkade 1 Sub 400V Circuit Breakers					
Description	**Make**	**Model**	**Serial no**	**Rating**	**Imax**
Oval Feeder Panel + Main Breaker					
Power Factor Correction	Lovato	DCRK5			
Gen Change over	Merlin Gerin Compact	NS800N	S-11060	25kA	800A

Parkade 2 Sub 400V Circuit Breakers					
Description	**Make**	**Model**	**Serial no**	**Rating**	**Imax**
Power Factor Correction 2	Vishay	ESTAmat PFC 12			
Transformer Incomer	Merlin Gerin Master pact	NW12H1	S-11063	65kA	1250A
Gen Change over panel	Merlin Gerin Compact	NS400N		85kA	400A

SOB Sub 400V Circuit Breakers					
Description	**Make**	**Model**	**Serial no**	**Rating**	**Imax**
Main Breaker, Power Factor Correction, Feeder Panel	Vishay	ESTAmat			

Oval Sub 400V Circuit Breakers					
description	**make**	**model**	**serial no**	**rating**	**Imax**
Oval Feeder Panel + Main Breaker	CBI	SACE E2B		40kA	2000A
Power Factor Correction	Vishay	ESTAmat			

Sub 01 400V Circuit Breakers					
Description	**Make**	**Model**	**Serial no**	**Rating**	**Imax**
Main Breaker, Power Factor Correction, Feeder Panel, Gen Chage Over	Merlin Gerin	NT12H1	S-11602, S-11603	42kA	1250A

Sub 19 400V Circuit Breakers

Description	Make	Model	Serial no	Rating	Imax
Main Breaker, Power Factor Correction, Feeder Panel, Gen Chage Over	Merlin Gerin	NT12H1	S-11601, S-11604	42kA	1250A
	SHELL Generator 400V CB				
Change Over Switch	Merlin Gerin	C801 NI			800A
Change Over Switch	Merlin Gerin	C801 NI			800A

5. List of Mini Subs transformers

Location	make	serial no	Cooling type	Manufac. Year	KVA Rating	Imax	Vector & Imp Volts %
Avis	Power Engineer	20522501/04	O.N.A. N	2003	500	667	Dyn 11 4.38
BP	Desta	MS-052/32	O.N.A. N	2000	500	721,7	Dyn 11 4.93
Bravo 1	NEI Transformers	20308903/01	O.N.A. N	1999	200	289	Dyn 11 4.13
Bravo 2	Power Engineer	30530601/01	O.N.A. N	2004	500	687	Dyn 11 4.58
Bravo 3	Power Engineer	30530601/02	O.N.A. N	2004	500	687	Dyn 11 4.49
Bravo 4	Power Engineer	30547401/02	O.N.A. N	2004	500	687	Dyn 11 4.39
Cape Business Aviation	Power Transformer	JMS437	O.N.A. N	2008	315	454,1	Dyn 11 4
Car Park	Power Transformer	JMS292	O.N.A. N	2004	315	433	Dyn 11 4.2
Court	Alstom	60171/01/002	O.N.A. N	06/2006	500	696	Dyn 11 4.89
CTX 1	DPM	30642101/01	O.N.A. N	2007	630	866	Dyn 11 4.86
CTX 2	DPM	30643801/01	O.N.A. N	2007	500	687	Dyn 11 4.32
Falcon Air	Not safe to read name plate						
First Car	Electro Inductive Industries	MS3251N	O.N.A. N	2007	1000	1391	Dyn 11 4.93
Gate Gourmet	Power Transformer	JMS139	O.N.A. N	1997	500	721	Dyn 11 4.21
Industrial	Power Engineer	TM3370	O.N.A. N	06/1996	500	687	Dyn 11 4.5
LGM	No Minisub						
Mass Mart	No Minisub						
Micor / FedEx	Power Engineer		O.N.A. N	2004	500	687	Dyn 11 3.27
New Cargo	Desta	MS-C71/12	O.N.A. N	1999	634	909,3	Dyn 11 4.69
Cargo 2	Electro Inductive Industries	DS2825N/02	O.N.A. N	11/2005	1000	1443	Dyn 11 4.5
New Radar	DPM	20583601/01	O.N.A. N	2005	200	275	Dyn 11 3.88
Precinct 5	ATM	ATM3206	O.N.A. N	2009	630	876,4	Dyn 11 4.55
Rennie's	Power Engineer	20505401/01/001	O.N.A. N	2003	1000	1375	Dyn 11 5.55
Rohlig	Power Transformer	JMS128	O.N.A.N	1997	500	721	Dyn 11 4.3
Safair	Power Engineer	30534401/01	O.N.A. N	2004	500	687	Dyn 11 4.51
Shell	Alstom	80171/01/003	O.N.A. N	06/2006	500	696	Dyn 11 4.81
Squadron	No Minisub		O.N.A. N				Dyn 11 4.10
SSS	Alstom	88991/01/001	O.N.A. N	03/2003	315	433	Dyn 11 4.39
Thunder City							
Data Centre							
Total = 30							