Confidential



5 YEARS MV/LV SWITCHGEAR & TRANSFORMER MAINTENANCE CONTRACT

| A contract between | Airports Company South Africa SOC Limited | |
|----------------------------|---|--|
| | Reg. No 1993/004149/30 VAT no 4930138393 | |
| | | |
| | | |
| and | | |
| Registration Number | | |
| | | |
| | | |
| Contract Number | | |

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C1.1 Form of Offer and Acceptance

Offer

The employer, identified in the acceptance signature block, wishes to enter into a contract for the

MAINTENANCE OF ELECTRICAL MV/LV SWITCHGEAR AND TRANSFORMERS AT BRAM FISCHER INTERNATIONAL AIRPORT FOR A PERIOD OF 5 YEARS

The contractor, identified in the offer signature block, has examined this document and addenda hereto as listed in the schedules, and by submitting this offer has accepted the conditions thereof.

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 the obligations and liabilities of the Contractor 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 exclusive of VAT is | R |
|---|-----------|
| Value Added Tax @ 15% is | R |
| The total offered amount due inclusive of VAT is | R |
| (in words) | |
| for the Contractor | |
| Signature | Date |
| Name | Capacity |
| (Name and address of | |
| organisation) | |
| | |
| Name andsignature | |
| of witness | Signature |

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 contractor'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. Acceptance of the contractor's offer shall form an agreement between the employer and the contractor upon the terms and conditions contained in this agreement and in the contract, that is the subject of this agreement.

The terms of the contract, are contained in:

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

Part C2: Pricing data and Price List

Part C3: Service information.

Part C4: Site information

and schedules, drawings and documents or parts thereof where so indicated.

Deviations from and amendments to the documents listed in the tender data and any addenda thereto as listed in the tender 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 agreement. No amendments to or deviations from said documents are valid unless contained in this schedule.

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

Notwithstanding anything contained herein, this agreement comes into effect on the date when the Tenderer receives one fully completed original copy of this document, including the schedule of deviations (if any). 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.

Signature Date Name Capacity (Name and Airports Company South Africa address of organisation): Airports Company South Africa SOC Limited, O R Tambo International Airport, Aviation Park. 1 Jones Road, Kempton Park, 1632 Name of witness Signature

for the Employer

Schedule of Deviations

| 1 Subject | |
|-----------|--|
| Details | |
| | |
| | |
| | |
| 2 Subject | |
| Details | |
| | |
| | |
| | |
| 3 Subject | |
| Details | |
| | |
| | |
| | |
| 4 Subject | |
| Details | |
| | |
| | |
| 5 Subject | |
| Details | |
| | |
| | |

By the duly authorised representatives signing this agreement, the employer and the contractor 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 tender 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.

C1.2 Contract Data

Precedence in interpretation of the contract:

In the event of any ambiguity, inconsistency or conflict between the General Conditions of Contract, Special Conditions, Pricing Data, Service information, or other, the order of precedence shall be as follows:

Firstly, the Service information (C3) and Annexes thereto shall prevail;

Secondly the Contract Data (C1.2) and Conditions of Contract;

Thirdly the General Conditions of Contract;

Fourthly the Pricing data;

Lastly any schedules, drawings and other documents included with this agreement.

General Conditions of Contract

The General Conditions of Contract comprise the NEC3 Term Service Contract, April 2013, published by the NEC, and the following "Particular Conditions", which include amendments and additions to such General Conditions.

The following Particular Conditions amplify the General Conditions of Contract and highlight areas in that document that require specific attention.

Wherein in the contract it is stated no contract data is required accordingly the *conditions of contract* remain unaltered as per NEC3 Term Service Contract, April 2013.

C1.2a - Data provided by the *Employer*

| Clause | Statement | Data | |
|----------|---|---|--|
| 1 | General | | |
| | The <i>conditions of contract</i> are the core clauses and the clauses for main Option: | | |
| | | A: Priced contract with price list | |
| | dispute resolution Option: | W1: Dispute resolution procedure | |
| | and secondary Options: | X1: Price Adjustment for inflation | |
| | | X18: Limitation of Liability (as amended in Option Z) | |
| | | Z: Additional conditions of contract | |
| | of the NEC3 Term Service Contract (April 2 | 2013) | |
| 10.1 | The Employer is: | Airports Company South Africa SOC Limited Reg. No 1993/004149/30 VAT no 4930138393 | |
| | Address | Bram Fischer International Airport | |
| | | Administration Office | |
| | | N8 Thaba Nchu Road | |
| | | Bloemfontein | |
| | | 9300 | |
| | Tel No. | +27 51 407 2200 | |
| 10.1 | The Service Manager is: | Maintenance Manager | |
| 11.2(1) | The Accepted Plan is | Section C3 of this document, including Annexes thereto as submitted by the <i>Contractor</i> and accepted by the <i>Service Manager</i> | |
| 11.2(2) | The Affected Property is | Bram Fischer International Airport | |
| 11.2(13) | The service is | the maintenance of MV/LV Switchgear and Transformers as set out in Part C3 Service Information. | |
| 11.2(14) | The following matters will be included in the Risk Register | Electrocution from inadequate isolation of transformers and switchgear Dual feed and ring feed supply Transformer Oil Spillage Working on main incomer breakers and disrupting the airport supply | |

| 11.2(15) | The Service Information is in | the section titled Service Information included as section C3 of this document. |
|----------|---|---|
| 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 | 5 working days |
| 21.1 | The period within which the Contractor provides the Contractor's Plan | 5 calendar days from Contract Date |
| 2 | The Contractor's main responsibilities | detailed in Part C3 (Service Information) |
| 3 | Time | |
| 30.1 | The starting date is | Upon signing by ACSA |
| 30.2 | The Service Period is | Five (5) years 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 on the | on the 15 th day of each successive month |
| 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 |
| 51.4 | The interest rate is | The prime lending rate of the Nedbank Bank, as determined from time to time. |

| 6 | Compensation events | No data is required for this section of the conditions of contract. | |
|------|--|---|--|
| 7 | Title | No data is required for this section of the conditions of contract. | |
| 8 | Risks and insurance | Refer to part C1.4 | |
| 83.1 | The Employer provides these insurances from the Insurance Table | services, Plant and Materials comprising Contract Works Insurance, SASRIA Special Risks Insurance and Marine & Air Cargo insurance; and (ii) Insurance (Public Liability Insurance) against liability for loss or damage to property (except the services, Plant and Materials and Equipment) and liability for bodily injury to or death of a person (not an employee of the Contractor) caused by activity in connection with the contract; Note: The terms and other matters applicable to these insurances provided by the Employer (and to insurances generally) are detailed in the | |
| | | insurance schedule attached as section C1.4 to the <i>contract</i> ("the Insurance Schedule"). | |
| 83.1 | The Contractor provides these additional | Professional Indemnity Insurance | |
| | insurances | Note: The terms and other matters applicable to this insurance provided by the Employer are likewise detailed in section C1.4 to the <i>contract</i> . | |
| 83.2 | The minimum amounts of cover or Refer to section C1.4. minimum limits of indemnity required for the insurance table | | |
| 9 | Termination | There is no Contract Data required for this section of the conditions of contract. | |
| 10 | Data for main Option clause | | |
| Α | Priced contract with price list | refer to section C2.1 and C2.2 | |
| 11 | Data for Option W1 | | |
| W1.1 | The Adjudicator is | The person appointed jointly by the parties from the list of adjudicators contained below | |
| | 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 <u>Errol.tate@mweb.co.za</u> | |
| | 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 |
| W1.2(3) | The <i>Adj</i> u | udicator nominating body is: | The current Advocate's Bar | Chairman of Johannesburg Council |
| W1.4(2) | The tribu | ınal is: | Arbitration | |
| W1.4(5) | The arbitration procedure is | | for the Conduct | procedure is set out in The Rules of Arbitrations 2013 Edition, 7th shed by The Association of uthern Africa) |
| | The plac | e where arbitration is to be held | is Johannesburg, | South Africa. |
| | | rson or organization who w an arbitrator | | nominating body is the Chairman sburg Advocates Bar Council. |
| Option A | The Contractor prepares forecasts of the final intervals no longer than 4 weeks. | | final total of the Pri | ces for the whole of the Services at |
| 12 | Data for secondary Option | | | |
| X1 | Price Adjustment for inflation | | deemed to refer date. Price ad | rred to in this clause shall be to the CPI index on the starting justment for inflation shall only ontract anniversary |
| X18 | Limitation of liability | | | |
| X18.1 | The Contractor's liability to the Employer for indirect or consequential loss is limited to: | | ed consequential o | orty is liable to the other for any or indirect loss, including but not of profit, loss of income or loss of |
| X18.2 | to the E | one event, the <i>Contractor's</i> liabili mployer for loss of or damage loyer's property is limited to: | | ses incurred and/or repairs to the d |
| | uic Linp | royer's property is inflited to: | | |

X18.4 Employer for all matters arising under or in connection with this contract, other than excluded matters, is limited to:

The Contractor's total liability to the The Contractor's total direct liability to the Employer for all matters arising under or in connection with this contract, other than the excluded matters, is limited to the total of the losses incurred and/or repairs to the damages caused and applies in contract, tort or delict and otherwise to the extent allowed under the law of the contract.

> 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(A): The Additional conditions of contract are: Z1-Z19

Amendments to the Core Clauses **Z**1 Interpretation of the law Z1.1 Add to core clause 12.3: Any extension, concession, waiver or relaxation of any action stated in this contract by the Parties, the Service Manager, the Supervisor, 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: Z2.1** Delete core clause 20.1 and replace with the following: 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. **Z**5 **Termination** Z5.1 Add the following to core clause 91.1, at the second main bullet, fifth sub-bullet point, after the words "assets or": "business rescue proceedings are initiated or steps are taken to initiate business recue proceedings". **Amendment to the Secondary Option Clauses Z**7 Limitation of liability: Insert the following new clause as Option X18.6: **Z**7.1 The Employer's liability to the Contractor for the Contractor's indirect or consequential loss is limited to R0.00 **Z7.2** 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 Z8 Cession, delegation and assignment **Z8.1** 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 not) of the Contractor Z8.2 The Employer may cede and delegate its rights and obligations under this contract to any person or entity **Z9** Joint and several liability Z9.1 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 the Contract. Z9.2 The Contractor shall, within 1 week of the Contract Date, notify the Service Manager and the Employer of the key person who has the authority to bind the Contractor on their behalf. Z9.3 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. Z10 **Ethics** Z10.1 The Contractor undertakes: Z10.1.1 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: to comply with all laws, regulations or policies relating to the prevention and combating of bribery, Z10.1.2 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. Z10.2 The Contractor's breach of this clause constitutes grounds for terminating the Contractor's obligation to Provide the Works 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. Z10.3 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, gratuity, 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. Z11 Confidentiality

- 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* or the *Employer*, which consent shall not be unreasonably withheld.
- **Z11.2** 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*.
- **Z11.3** This undertaking shall not apply to –
- **Z11.3.1** Information disclosed to the employees of the *Contractor* for the purposes of the implementation of this agreement. The *Contractor* undertakes to procure that its employees are aware of the confidential nature of the information so disclosed and that they comply with the provisions of this clause;

- **Z11.3.2** 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:
- **Z11.3.3** 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);
- **Z11.4** The taking of images (whether photographs, video footage or otherwise) of the *works* or any portion thereof, in the course of Providing the Works and after Completion, requires the prior written consent of the *Service Manager*. All rights in and to all such images vests exclusively in the *Employer*
- **Z11.5** The *Contractor* ensures that all his Subcontractors abide by the undertakings in this clause.

Z12 Employer's Step-in rights

- If the *Contractor* defaults by failing to comply with his obligations and fails to remedy such default within 2 weeks of the notification of the default by the *Service Manager*, the *Employer*, without prejudice to his other rights, powers and remedies under the contract, may remedy the default either himself or procure a third party (including any subcontractor or supplier of the *Contractor*) to do so on his behalf. The reasonable costs of such remedial works shall be borne by the *Contractor*
- 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.

Z13 Liens and Encumbrances

The *Contractor* keeps the Equipment used to Provide the Services 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 procures 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

Z14 Intellectual Property

- **Z14.1** Intellectual Property ("IP") rights means all rights in and to any patent, design, copyright, trade mark, trade name, trade secret or other intellectual or industrial property right relating to the Works.
- **Z14.2** IP rights remain vested in the originator and shall not be used for any reason whatsoever other than carrying out the *works*.
- **Z14.3** The *Contractor* gives the *Employer* an irrevocable, transferrable, non-exclusive, royalty free licence to use and copy all IP related to the *works* for the purposes of constructing, repairing, demolishing, operating and maintaining the works
- 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
- **Z14.5** 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:
- **Z14.5.1** the *Contractor's* design, manufacture, construction or execution of the Works

- **Z14.5.2** the use of the *Contractor's* Equipment, or
- Z14.5.3 the proper use of the Works.
- Z14.6 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.

Z15 Dispute resolution:

Z15.1 Appointment of the **Adjudicator**

An Adjudicator is appointed Panel of Adjudicators when a dispute arises, from the Panel of Adjudicators below. The referring party nominates Adjudicator, which nomination is either accepted or rejected by the other party. In the instance of a rejection of the nominated Adjudicator, 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

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

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

Z15.2 **Appointment** of the **Arbitrator**

An *Arbitrator* is appointed when a dispute arises from the Panel Arbitrators below. of 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. | Durban | +27 11 262 4001 |
| Eng. | | Errol.tate@mweb.co.za |
| Adv. Saleem Ebrahim | Gauteng | +27 11 535-1800 |
| | | salimebrahim@mweb.co.za |
| Mr. Sebe Msutwana | Gauteng | +27 11 442 8555 |
| Pr. Eng. | | sebe@civilprojects.co.za |
| Mr. Sam Amod | Gauteng | sam@samamod.com |
| | | |
| Adv. Sias Ryneke SC | Gauteng | 083 653 2281 |
| | | reyneke@duma.nokwe.co.z |
| | | <u>a</u> |
| Mr. Emeka Ogbugo | Pretoria | +27 12 349 2027 |
| (Quantity Surveyor) | | emeka@gosiame.co.za |
| - | | - |

Z16 Notification of a compensation event

Z16.1 Delete "eight weeks" in clause 61.3 and replace with "four weeks". Delete the words "unless the event arises from the Service Manager or the Supervisor giving an instruction, issuing a certificate, changing an earlier decision or correcting an assumption.

Z17 BBBEE and Tax Clearance Certificates

The *Contractor* shall be expected to annually present a compliant BEE Certificate and a Tax Clearance Certificate. Failure to do adhere to these requirements shall be considered a material breach of the conditions of this Contract, the sanction for which may be a cancellation of this Contract.

Z18 Communication

Z18.1 Add a new Core Clause 14.5 and 14.6 to read as follows:

The Service Manager requires the written consent of the Employer if an action will result in a change to the design, scope, and Service information that is 5% or more

Z18.2 The Service Manager requires the written consent of the Employer if an action will result in the Completion Date being extended by more than 30 days.

Z19 Delegation

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

As part of this contract the *Contractor* acknowledge that it (mandatory) is an employer in its own right with duties as prescribed in the Occupational Health and Safety Act No 85 of 1993 as amended and agree to ensure that all work being performed, or Equipment, Plant and Materials being used, are in accordance with the provisions of the said Act, and in particular with regard to the Construction Regulations.

C1.2 b - DATA PROVIDED BY THE CONTRACTOR

| Clause | Statement | Data |
|--------|--------------------------------------|--|
| 10.1 | The Contractor is (Name): | |
| | Address: | |
| | | |
| | | |
| | Telephone No | |
| | Email Address: | |
| | | |
| | Represented by: | |
| | Title: | |
| | Address: | |
| | Telephone: | |
| | Email Address: | |
| | The direct fee percentage is: | % |
| | The subcontracted fee percentage is: | % |
| 11.2 | The working areas are | refer to C3 'Service Information' |
| 24.1 | The Contractor's key persons are: | CV's to be appended to resource proposal |
| 1. | Name: | |
| | Responsibility: | |
| | Qualifications: | |
| | Experience: | |
| 2. | Name: | |
| | Responsibility: | |
| | Qualifications: | |
| | Experience: | |
| 3 | Name: | |
| | Responsibility: | |
| | Qualifications: | |
| | Experience: | |

| 4 | Name: | |
|-------------|---|--|
| | Responsibility: | |
| | Qualifications: | |
| | Experience: | |
| 11.2 | The following matters will be included in the Risk Register | |
| | The plan identified in the Contract Data is | In Section C3, the Service Information |
| Option A | The price list is | In Section C2.2 of the Pricing Data of this contract |
| Option A | The tendered total of the Prices is | R (excluding VAT) |
| | (in words) | |
| | | (excluding VAT) |

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:
- 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
- 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) 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 enactment's 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."

Annex B

INCIDENT ADVICE FORM

NOTE: PLEASE SEND A COPY HEREOF TO ACSA HEAD OFFICE

| Send to: | *From: |
|---|--|
| Aon South Africa (Pty) Ltd - Construction & I Attention: Priscilla Hart 1 Sandton Drive Sandhurst, Sandton 2196 Tel No: +27 (11) 944 7974 E- mail: priscilla.hart@aon.co.za | Engineering |
| *Please provide name of contracting company, | site address, telephone, fax numbers and e-mail. |
| DATE OF LOSS: | |
| REPORTED TO SITE AGENT BY: | DATE |
| REPORTED TO AON SOUTH AFRICA BY: | DATE |
| Locality of Incident: | |
| How did the loss /damage/injury/death occur (ca | ause)? |
| | |
| | |

Confidential

| Details and nature of loss /damage/injury/death: | | | |
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| Names and address of witnesses: | | | |
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| Estimated cost of repairs, if applicable (Separate records of all costs must be kept): | | | |
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| | | | |
| Who or what appears to be responsible for the loss /damage/injury/death: | | | |
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Confidential

| Person whom assessor should contact: | |
|--------------------------------------|------------|
| Telephone, fax number and e-mail: | |
| SIGNED BY: | SIGNATURE: |
| COMPANY: | DATE: |

C2.1 Pricing Instructions

The intended pricing strategy to be followed in this tender is according to the Price List (including the activity schedule).

- 1. The Contract Data, Service information, drawings and any other documents relevant to this tender must be read in conjunction with the Activity Schedule.
- 2. The contractor must plan the work in this contract as a set of activities. These should be the same activities as he shows on his programme.
- 3. This schedule covers the items that will be measurable. A lump sum price for each activity shall be entered and no other items will be measured. Costs not covered by the items may be included in the most appropriate items listed. The Contractor has the liberty to insert items, quantities and rates of his own choosing in the said schedule as a separate line item.
- 4. The pricing schedule as completed by the Contractor shall be **VAT exclusive** prices and shall cover, "inter alia" all general risks, liabilities, obligations, profit, expenses, costs, bonuses, all allowances such as shift and standby allowances, sick-leave, other leave, brackets, fixings, incidentals, consumables etc. that will be required to successfully complete this contract as set forth or as implied in the documents on which this Contract is based.
- 5. The contractor is to take note that payment is made for each activity only when it is complete. "Complete" as it is used in this schedule means the complete system or unit as specified in the particular document.
- 6. Unless a separate rate for the supply and for the installation of any item is specifically called for, the supply and installation costs of any item shall be fully included in the price.
- 7. The description of each item shall, unless otherwise stated herein, be held to include making, conveying and delivering, unloading, storing, unpacking, hoisting, setting, fitting and fixing in position, cutting and waste, patterns, models and templates, plant, temporary works, return of packaging, establishment charges, profit and all other obligations arising out of the contractual conditions.
- 8. The quantities and rates included for day work shall form part of the tender price, but Contractors shall note that this item must be regarded as provisional and will only be payable to the Contractor if and when a written order to this effect has been issued.
- 9. "Foreign" shall mean the CIF (Cost, Insurance and Freight) value.
- 10. No alterations to the original text shall be allowed. If any alterations are made, it shall be ignored and the original wording will apply.
- 11. Variations in the scope and extent of the work shall be allowed to meet the Engineer's requirements and shall be measured and priced at the rates entered in the Activity Schedule, where appropriate, and shall form an addition to or deduction from the total of the Accepted Contract Amount. Any items or variations for which rates have not been included in the Activity Schedule shall be agreed and priced as non-scheduled items.
- 12. All provisional sums and contingency amounts shall be expended as directed by the Engineer and any balance remaining shall be deducted from the contract sum.
- 13. All items described as "provisional" shall be measured as executed and paid for according to prices in the Activity Schedule and any amounts not spent shall be deducted from the contract price. No work for which "provisional" items are provided shall, be commenced without written instructions from the Engineer.
- 14. No commitment to expending any portion of the contingency amounts and/or provisional sums are made or implied by the Employer.
- 15. The Contractor shall not be entitled to any claim in instances where provisional sums are partially or in total removed from the contract.
- 16. The main cost drivers for this contract is the required labour for planned maintenance. Spares parts required for the maintenance service will be presented under provisional sums.

Pricing Instructions C2.1 page 1

C2.2 Price List

The following Activity Schedule is provided "as-is" for the benefit of the Tenderer. ACSA cannot guarantee that it is complete in all respects. The Tenderer is responsible for providing an Activity Schedule which is accurate, complete and in accordance with their proposal. Also, refer to C3 (Service information) for activities that need to be priced. Only items listed in this Activity Schedule may be billed to the Employer.

Part 1 - Activity Schedule

| Item no. | Activity Description | Frequency | Quantity (per year) | Amount (per single item) | Total (per year) |
|---|--|-----------|---------------------|--------------------------|------------------|
| 1 | Contract Management and administration (including required reporting such as monthly reports, spares inventory management reports, office overheads, parking, etc.). | Quarterly | 4 | R | R |
| 2 | Insurance (All ACSA required insurance) | Annually | 1 | R | R |
| 3 | Permits, Induction, Medicals | Once-off | 8 | R | R |
| 4 | Transformer Service Kit | Annually | 5 | R | R |
| 5 | Transformer Oil Sampling and Analysis | Annually | 9 | R | R |
| 6 | Preventative Maintenance – All Transformer Units | Annually | 1 | R | R |
| 7 | Preventative Maintenance – All Switchgear Units | Annually | 1 | R | R |
| 8 | Infrared Scanning – All Transformers, Switchgear, and Busbars | Annually | 1 | R | R |
| Preventative Maintenance Sub-Total A (per year) | | | | R | |

- By Tools, equipment and consumables is also meant cleaning materials, fasteners, lubricants, chemicals, electronic
 devices, etc. that are required to do any corrective or preventive maintenance, and measurements (multi-meters, etc.).
- Travelling time charges or allowances will not be paid separately and where applicable must be included in the rates above.
- A Parking access card will be applied for and issued in order to facilitate access through the entrance and exit booms. This
 card is payable in cash at the start of each calendar month at the Parking Office. This card shall only be utilised for the
 purpose of performing duties under this SLA. Any abuse of the use of this card for personal use shall be penalised at R500.00
 per occurrence.
- It is important to note that not all amounts above are payable in any one month. Since this is an activity schedule only the activities performed and completed shall be claimed for at invoice date and paid for accordingly.

Labour Rates and Mark-up

Any work not included under part 1 shall be deemed additional work or non-scheduled items and will be charged at the following rates:

Labour (day/night rate)

| Labour | our (day/mgmc rato) | | | | |
|--------|-------------------------|----------------------|-----------------------|---------------------|--|
| Item | Description | Weekdays (R/hour) | Saturdays (R/hour) | Sundays (R/hour) | |
| 1 | Site Supervisor/Manager | R | R | R | |
| 2 | Electrician | R | R | R | |
| 3 | Assistant / Labourer | R | R | R | |

^aAll rates to exclude vat. Subject to agreement between ACSA and the Contractor, the number of staff allocated to the contract may be increased/decreased to cater for special needs that may arise from time to time. Labour rates shall include all personnel insurance, holidays with pay, incentive bonuses.

No labour shall be charged for travel or travelling. Labour time shall be calculated for the time spent on site.

Part 2 – After-hours call-outs – non-scheduled (provisional)

| Description | Qty | Call out fee | Total / year |
|--------------------------------------|-----|--------------|--------------|
| Cable fault location | 6 | R | R |
| Cable fault repair and pressure test | 6 | R | R |
| Site Supervisor/Manager | 4 | R | R |
| Electrician | 24 | R | R |
| Assistant / Labourer | 18 | R | R |
| Labour Sub-Total B (| R | | |

Callout rate must include all required travelling and the **first hour on site**. This table should be calculated using Saturday rates

Part 3 – Switchgear and Transformer Provisional Sums

Quantity refers to the minimum required components of each type.

| Number | Description | Quantity | Cost Per Item | TOTAL PRICE |
|--------|---|----------|---------------|-------------|
| 1 | Annual Transformer Service Kit | 2 | | |
| 2 | Insulating oil | 3000 L | | |
| 3 | Transformer oil regeneration | 3 | | |
| | Spares | | | |
| 4 | Trip Coils, Contactors, Auxiliary switches, Set of relays, | set | | |
| 5 | CT's, VT's, Control Fuses, Insulators, Batteries, Door Fans, Door Filters | set | | |
| 6 | Door interlock mechanisms | 1 | | |
| 7 | Panel Switches, Push buttons, Limit switches, Indicating Lamps | Set | | |
| 8 | Bolts, lugs, nuts, gaskets, sealing strips, terminal blocks, sockets, | | | |

Sub-Total C (per year) R

The spare list has to be prepared on the basis of tenderers best current spares prices (excl. VAT). The actual costs of spares will be reimbursed on submission of invoices and suppliers supporting documents. All verified invoices will be paid including the agreed mark-up percentages.

Mark-up (third party procured items/services)

| Cost ^b | Mark-up |
|---------------------------|---------|
| R 0.00 – R 10,999.99 | % |
| R 10,000.00 – R 50,999.99 | % |
| R 60,000.00 or more | % |

bCost shall be net cost (excluding VAT) of parts delivered to site with all discounts deducted.

Contract value

Below is the guide that must be used in estimating the contract value. This amount must be reported as the Contract Value in the corresponding schedules. Tenderers are reminded that this amount is for illustrative purposes only and that ACSA will not be under any obligation to expend the full or any portion of this amount. Contract expenditure will be strictly calculated according to the Activity Schedule as provided above.

SWITCHGEAR & MV/LV SWITCHGEAR ANNUAL MAINTENANCE COSTS

| Description | Total (excluding VAT) |
|--|-----------------------|
| Preventative Maintenance - Sub-Total A | R |
| Call Outs - Sub-Total B | R |
| Spares - Sub-Total C | R |
| 1 Year estimated contract value | R |

SWITCHGEAR & MV/LV SWITCHGEAR 5 YEARS MAINTENANCE COSTS

| Description | Total (excluding VAT) |
|---------------------------------|-----------------------|
| Escalation Rate | % |
| Year 1 Contract Amount | R |
| Year 2 Contract Amount | R |
| Year 3 Contract Amount | R |
| Year 4 Contract Amount | R |
| Year 5 Contract Amount | R |
| 5 Year Estimated Contract Value | R |

^{*}this amount to be carried over to Form of Offer and Acceptance

Detailed requirements regarding staff

The Contractor shall continuously ensure that all staff is suitable and competent for the duties required of them. The Contractor shall continuously ensure that all staff is knowledgeable on the class of MV/LV Switchgear and Transformers they are contracting for wit the airport.

For all staff and senior personnel dedicated to this contract, the following must be submitted in detail:

- □ Full Names
- □ Proof of qualifications and work experience on maintaining similar equipment system.

Minimum qualifications of staff

SUPERVISOR

- Supervise the safe execution of the maintenance activities
- Diploma, or N6 in electrical engineering
- With more than 3 years' supervisory experience
- Must have solid knowledge of supervisor responsibilities under the OHS act and applicable laws

ELECTRICIANS

- Trade tested Electricians, with traceable qualifications.
- Three (3) or more years' post qualification experience relevant to the maintenance of switchgear and transformers
- Proof of medium voltage or ORHVS training
- The ability to sign-off on all maintenance records and verify that the system is safe and fit for use
- Must have troubleshooting skills on switchgear and transformers
- Must be permanently employed by the bidding company

Must reside in a location where they are able to respond within the SLA times

ASSISTANT'S

- Must be in permanent employ of the company
- Properly trained in category of work that they are required to perform
- Properly trained and familiar with the dangers of working with electricity and moving machinery.

PART C3: EMPLOYER'S SERVICE INFORMATION

1. DESCRIPTION OF THE SERVICE

The objective is to maintain the serviceability of switchgear and transformer at Bram Fischer International Airport in a sustainable manner, following OEM and industry best practice intervals, at the lowest operating and maintenance costs while ensuring compliance to general safety and aviation related legislation such as OHSACT, ORHVS, SANS, ICAO, and IEC.

This scope entails the maintenance and repair of electrical switchgear and transformers at Bram Fischer International Airport. In brief, maintenance involves servicing, repairs, and testing of electrical switchgear and transformers.

Servicing - performing routine preventive maintenance as prescribed by the original equipment manufacturer (OEM) specification, ACSA's planned maintenance routines, and applicable legal and design standards.

Repairs – responding to breakdowns, call-outs and restoring the equipment to safe working conditions in a timely manner.

System Performance Test – Testing equipment performance against the original equipment manufacturers and statutory requirements for compliance and return to service purposes. Testing is to include such tests as insulation, injection, partial discharge, infrared, mechanical, HV, ultrasound, dielectric, function, phase sequence, polarity, temperature rise, or whichever test is applicable and required to the class of equipment under consideration.

Switchboards

The contractor will be responsible for plant and emergency repairs, periodical servicing and testing of 11kV and 400V switchboards.

Circuit Breakers

The contractor will be responsible for servicing, repairing and testing of 400V, 11kV circuit breakers. This will include periodic testing of the insulating oil, operating mechanism, trip units, oil leakages, functionality, etc.

Diesel Generator Switchgear

The contractor will be responsible for servicing, repairing and testing of 400V diesel generator switchgear.

Transformers

The contractor will be responsible for servicing and testing of all site transformers up to 11kV/400V, 1000 kVA. The contractor will further be required to perform annual oil sampling, analysis and oil changes as and when required.

Extent of the works

The Contractor will be fully responsible for meeting all requirements in this document regarding the Works

For each piece of equipment, all work will be carried out to standards as required by the Original Equipment Manufacturer (OEM) as well as any applicable governing law and/or regulations. Where OEM standards differ from those required by this document the more stringent requirement shall apply. The Contractor will be fully responsible for obtaining (and keeping up to date with) said requirements.

The proposed minimum scheduled maintenance activities can be found in annex H.

Location of the works

The Works are located at various locations at Bram Fischer International Airport's designated substations – including those on the airside.

2. MANAGEMENT STRATEGY

Contractor's plan for the service

Prior to the activation of this contract, the contractor must submit his plan for the intended services for approval by the employer. The plan must indicate the timing of the services/planned maintenance together with the timing (date and time) and the anticipated duration.

All work shall conform to all relevant SANS standards, OHS ACT regulations and all other legislation that might be relevant to this Contract and the execution thereof.

All work shall be carried out in accordance with prevailing industry norms and best practice and will always comply with OEM requirements.

Planning and programming

All maintenance work shall be scheduled and a roster presented to the Service Manager at the end of the preceding service. Work shall be scheduled in a manner as not to interfere with any normal airport operations. The objective is to ensure that maintenance of the infrastructure is carried out without placing the operation of the airport at risk of standing without essential MV/LV Switchgear and Transformers. Preferably all maintenance must be performed during night hours.

• The airport's operational hours are detailed as follows:

| 0 | Monday to Thursday | 05H00 to | 20H00 |
|---|--------------------|----------|-------|
| 0 | Friday | 05H00 to | 20H00 |
| 0 | Saturday | 08H00 to | 16H00 |
| 0 | Sunday | 08H00 to | 20H00 |

The airport's operational hours are published in the AIP for FABL and can change based on operational requirements from time to time.

As a **minimum** requirement, the Contractor shall roster **scheduled** preventative maintenance activities. Together with this roster, the *Contractor* shall provide a Schedule of equipment and tool, which will be used on this contract. The list will form part of the tender return schedules. The equipment will be judged in conjunction with the *Contractor*'s Plan for the service to understand whether or not the bidder has fully understood his obligations and whether he is able to do the work.

All Preventative Maintenance shall be scheduled, at least, to the requirements of the annexures (The Contractor must ensure that sufficient allowances for all these items are made with his/her pricing in the Activity Schedule.). The Contractor must ensure that no scheduled maintenance work is carried over to the following week.

Management meetings

The Contractor will be expected to attend meetings relating to maintenance, operations, contract management and other issues that may arise from time to time. As far as is practicable, the Contractor will make all required persons available for these meetings. The Contractor shall not submit claims for payment for staff attending any of these meetings.

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.

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 any persons who is part of this agreement at times to suit both Parties, to discuss 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.

Key personnel

The *Contractor* shall submit an organogram (as part of the Returnable Schedules) showing his key personnel, their roles/responsibilities, and their line of authority. This is specifically essential if the contractor is a Joint Venture. The submitted Contractor's Organogram Should be attached as Annex E of C4 (Site Information).

A schedule of key personnel to this Contract (as per the Schedules) will be provided to the Service Manager at commencement of this Contract. This will, as a minimum, include all persons from technician level to management level. For the full duration of this Contract, none of these persons will be replaced by a person of lesser ability or qualification. All on-site staff leaves shall be reported and agreed with the Service Manager.

The Contractor will be responsible for providing staff which are sufficiently skilled and qualified for successful execution of the works. The Contractor shall comply with the Minimum Staffing Schedule – as stipulated in the Annexes. This may be amended by mutual arrangement between ACSA and the Contractor from time to time.

The Contractor shall always remain responsible to ensure that the compliment and maintenance regime is sufficient to maintain the service levels and system performance indicators as stipulated in the Annexes. Should the Contractor not be able to maintain adequate system performance indicators due to constraints caused by the Employer, it shall be timeously reported, in writing, to the Contract Manager. Refer to the Annex C for the required system performance indicators.

The Contractor will ensure that his/her staff compliment is of a sufficient quantity to allow for uninterrupted supply of labour in the event of his/her staff taking sick leave, paid leave and will allow for all staff related eventualities.

The Contractor shall continuously ensure that all staff is suitable, able and competent for the duties required of them. The Contractor shall continuously ensure that all staff is knowledgeable and trustworthy to perform maintenance activities/procedures for the Works. The Contractor shall further ensure that any staff member reasonably suspected of partaking in criminal activities is immediately removed from site and his permit returned to and/or cancelled at the ACSA Permit Office.

All work shall be performed within the required Response Times – as stipulated in the Annexes. Any breakdown impacting on operations shall be attended-to until restored to good reliable condition. No breakdown may be left unattended or incomplete for the next day or shift. All repair work shall carry a defect free guaranteed for a period of 3 months after completion of work.

All work shall be charged according to the Activity Schedule. However, no labour shall be charged for any non-scheduled work, repair work or other work when carried out by a scheduled maintenance shift.

All spares will be charged according to the Activity Schedule. The Contractor shall ensure that replacement parts are effectively managed and disposed-off in a safe manner.

The Contractor will be responsible for holding all tools and/or special equipment that might be required for the execution of the works, either on site or on their premises in order to comply with the Response Time requirements of this contract. Any exclusion to the above should be clearly communicated in the returnable schedules when submitting the tender.

The Contractor shall ensure that, unless a special arrangement is made with the Service Manager, all senior staff members and maintenance support staff is always immediately reachable via cell phone.

Methods and Procedures

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
- Assisting with airport operations. Re-scheduling of work to accommodate other contractors
- Allowing access and aiding OEM suppliers to correct defects on equipment and/or systems
- Pointing out services to consultants or other contractors
- Attending co-ordination and planning meetings
- Removing rubble and/or equipment from site relating to this contract
- Training of ACSA operators and/or technicians
- Providing of system data and/or statistics to ACSA
- Recommending improvements on maintenance procedures
- Recommending improvements on operational procedures
- Co-operating with ACSA Security relating to security issues

The ACSA Service Manager may instruct operational and works procedures to the Contractor as might be required from time to time. The Contractor will instruct his/her staff accordingly and implement measures to ensure that these procedures are strictly adhered to.

Format of communications

Work instructions, check sheets, monthly/quarterly maintenance reports, breakdown reports, exception reports, etc. will all be in a format as agreed with the Service Manager.

MAINTENANCE DOCUMENT CONTROL

When maintenance is performed, record sheets must be completed and signed off by both the Technician/Electrician and an ACSA representative. Monthly progress reports should be submitted timeously by no later than the 3rd day of the following month. Reference must be made of all completed PM's and WO's.

These record sheets must be stored for the duration of the contract and should be available for inspection at any time. The lack of complete history files will result in immediate cancellation of the contract.

All record sheets, job cards, history reports etc. will stay the property of ACSA and should be available on request. At the end of the contract period a complete set of documentation must be handed over to ACSA.

The contractor shall further provide copies of these record sheets to the ACSA contract manager by the fifth day of every month. **No money will be paid out if record sheets are not handed in.**

Quarterly reports

When invoicing, the Contractor shall ensure that all required reports for the corresponding service or repair are attached to their invoices. This will include information on:

- 1. system availability (averaged per week)
- 2. maintenance work (including % of scheduled maintenance work completed)
- maintenance plan for the next quarter
- 4. Asset register up to date including equipment data
- 5. Outstanding maintenance issues
- 6. findings from the previous service
- 7. Recommended improvement opportunities

The contractor shall keep copies of all reports and records for at least five (5) years. All reports shall be in a format as agreed with the Service Manager from time to time.

Failure Reports

After every incidence or failure which warrants a call out, the contractor shall provide the Employer with a comprehensive equipment failure report. The report should at a minimum describe the incidence, the root cause resulting with the failure, the intervention undertaken to return the MV/LV Switchgear and Transformers to service, and all future actions that need to be undertaken to return the unit to a healthy state/condition.

Invoicing and Payment

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 Finance Department and include on each invoice the following information:

Name and address of the Contractor and the Service Manager;

The contract number, Blanket Purchase Order Number and title;

Contractor's VAT registration number;

The Employer's VAT registration number 4930138393;

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)

Equipment

The *Contractor* shall hand-over any equipment and tools which was procured during the service period and claimed for to be paid by the *Employer*.

Information and Other Things

During the duration of the contract, the Contractor will acquire extensive intellectual property about the associated assets, equipment and procedures. This information cannot be used for any other reason except for fulfilment of this agreement. Any such intellectual property must be handed over to ACSA at the end of the Service period. These will include, but is not limited to, the following:

- 1. Reports
- 2. Memorandums

- 3. Drawings
- 4. Operating manuals
- 5. Service history books
- 6. Pictures
- 7. Movie Clips
- 8. Audio Clips
- 9. Spread sheets / Databases
- 10. Meeting minutes
- 11. Communiqués
- 12. Files
- 13. Warranties

3. HEALTH & SAFETY

The *Contractor* shall comply with the health and safety requirements contained in section C1.3 above under PART C1: AGREEMENT AND CONTRACT DATA. Detailed records (attendance register) of all people (including subcontractors) working on the affected property must be kept.

Health and safety requirements and procedures

The Service Manager shall be entitled to fine the Contractor an amount of R2000.00 for each non-conformance to Health and Safety matters. This shall not transfer any of the Contractor's responsibilities in this regard to the Employer by any means.

The Contractor shall be fully responsible for compliance to the Occupational Health and Safety Act for all persons, equipment and installations relating to this Contract. The Contractor is expected to sign the undertaking in this regard as attached in the annexes.

It shall be the Contractor's responsibility to ensure that all relevant labour and safety legislation is adhered to in rostering staff.

All persons on company premises shall obey all health and safety rules, procedures and practices. NO SMOKING signs and the prohibition of the carrying of smoking materials in designated areas shall always be obeyed. A copy of the Safety Rules booklet is available on request from the ACSA Safety Department.

All the applicable requirements of the Occupational Health and Safety Act (1993) and Regulations and any amendments thereto, shall be met. Where the OHS Act prescribes certification of competency of persons performing certain tasks, proof of such certification shall be provided to the Service Manager.

The contractor's Workmen's Compensation fees must be up to date. A copy of the Contractor's WCA registration shall be produced on request.

The following areas in the company are declared as "HOT WORKS PERMIT" areas:

- All airside areas
- All basement areas
- All areas accessible to the public
- All enclosed areas
- The terminal building

Any process in the above mentioned areas involving open flames, sparks, or heat shall be authorised by the issue of a permit to work - obtainable from the ACSA Safety department. Any work done under the protection of a permit to work shall be in strict compliance with every prescription regarding the permit.

Safety equipment shall be used where applicable (e.g. safety, goggles, boots, harness, etc.) The Contractor, at his/her own expense shall provide such equipment, for his/her employees. The Contractor shall apply the necessary discipline and control to ensure compliance by his workers.

All Contractors must ensure that his/her employees are familiar with the existing emergency procedures and must co-operate in any drills or exercises, which might be held. Emergency / fire equipment and extinguishers shall not be obstructed at any time

No person shall perform an unsafe / unhygienic act or operation whilst on Company premises.

No unsafe/dangerous equipment or tools may be brought onto or used on Company premises. The Company reserves the right to inspect all equipment/tools at any time and to prevent/prohibit their use, without any penalty to the Company and without affecting the terms of the Contract in any way.

The Company reserves the right to act in any way to ensure the safety/security of any persons, equipment or goods on its premises and will not be liable for any costs or loss evoked by the action. This includes the right to search all vehicles and persons entering, leaving or on the premises and to inspect any parcel, package, handbag and pockets. Persons who are not willing to permit such searches may not bring any such items or vehicles onto the premises.

The Contractor shall maintain good housekeeping standards in the area where he is working for the duration of the contract.

At no time, must the Contractor interfere with, or put at risk, the functionality of any Sprinklers and/or fire prevention system. Care must also be taken to prevent fire hazards.

Personal Protective Equipment

The Contractor shall ensure that all maintenance staff are issued with uniforms that will comply with a minimum requirement as agreed with the Service Manager from time to time. Current airport requirements are: safety shoes, work suit and a uniquely numbered reflective jacket (for easy identification via CCTV).

The Contractor is required to issue all staff with standard uniforms. This shall as a minimum include: safety shoes, overalls (clearly marked with Contractor's company logo) and numbered reflective jackets (as per Airport requirements). All costs relating to uniforms shall be for the Contractor's account.

Cell phones and two-way radios

Use of cell phones on airside is **not** permitted unless the user is in possession of an appropriate Airport permit for the device. Cell phone permit issuing authority lies with the ACSA Security department.

The Contractor will **not** be allowed to use two-way radios at the Airport unless these radios are of the type, model and frequency range as approved by the ACSA IT department.

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 to safeguard children and the general public from injury relating to machinery, work or other.

Barricades and lighting

Where hoarding, barricades or lighting is required in the execution of the Works, the Contractor shall provide same at his/her own expense. Hoarding, barricades and lighting shall comply with industry accepted norms and standards and may not be used for purposes of advertising or any other purpose than safeguarding the Works.

Environment

The Contractor will keep noise and dust levels to a minimum. At no time, shall his/her work result in nuisance, interference or danger to the public or any other person working at the Airport.

At no time, shall the Contractor:

- allow any pollutive or toxic substance to be released into the air or storm water systems
- · interfere with, or put at risk, the functionality of any system or service
- cause a fire or safety hazard

Quality Plans and Control

All work must be executed in accordance with prevailing industry norms and standards relating to quality. In this regard, the Contractor will be expected to draft quality plans for the Service Manager from time to time. Emphasis must be on improving system reliability and on ensuring that rostered maintenance work is indeed performed as and when required.

A quality control plan should be developed for both the quarterly and the annual service requirements. The respective Service Manager should indicate his/her required intervention points on this plan: be it a hold, witness, or visual inspection point.

4. PROCUREMENT

Preferential Procurement Procedures

The Contractor will respect OEM warrantees 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.

Where Contractors use or quote on spare parts of a lower quality than recommended by the OEM, or parts not recommended by the OEM, this shall be clearly indicated to the Service Manager on the quotation. This also implies that the Contractor must build relationships with the various key OEM's.

The Contractor must adhere to all airport requirements regarding fire, health and safety when procuring replacement parts.

No undefined (Price List) expenditure will be allowed to claim for by the *Contractor*. Where the need arises for such items - it must be clearly motivated for and approved by the *Service Manager*.

The *Contractor* is obliged to deliver or provide all necessary material and equipment to execute the works (e.g. measuring instruments and tools) and small items (e.g. lubricants and cleaning agents).

No casual labour (i.e. "off the street" labour) may be employed by the Contractor unless pre-arranged with ACSA. Whenever this is required, the Contractor shall come to a suitable arrangement with ACSA regarding sourcing and screening of such individuals.

Subcontracting

No part of this Contract may be subcontracted unless with written approval from ACSA. ACSA shall be under no obligation to grant such approval. Should any part of this Contract be subcontracted, the Contractor will be responsible for all Works (or failure to affect the Works) as if it was done so by the Contractor.

Specialist services that may be required for this contract should be indicated and priced for as part of the quarter or annual services. This should be indicated as part of the service kit in Annex B.

BBBEE and Preferential Scheme

In order to qualify for B-BBEE recognition, ACSA will only accept B-BBEE certificates from SANAS accredited verification agencies and IRBA approved auditors as proof of B-BBEE status.

Specifications

The Contractor shall use only tools and test equipment relevant to the operation, repair and maintenance of the MV/LV Switchgear and Transformers infrastructure. All test equipment used shall be calibrated as per regulation to ensure accurate measurement results are obtained at all times. Proof of calibration certificates needs to be issued on request by the Service Manager. All tools used shall be safe and in good working conditions. All electrical tools shall be properly insulated to alleviate electrocution risk. All tools used needs to be inspected and recorded in the tool inspection sheet. The Service Manager reserves the right to have access to the maintenance records of the Contractor's plant and equipment, when requested.

Only materials with acceptable quality must be used as part of the services. Where an industry norm certification (SABS, expiry date, etc.) cannot be determined, then the *Service Manager* must be afforded the opportunity to inspect and authorize the items prior to it being delivered onto ACSA premises.

Correction of defects

The *Contractor* shall immediately report any equipment defects found whilst performing the services. All defects and non-conformances must be corrected immediately with agreement of the service manager. Constraints that can prevent this must be communicated to the *Service Manager* (or his delegated person) is listed below:

- 1. Airport operations that will be interrupted with a direct effect of revenue income. Hence the work must be scheduled for after operational hours.
- 2. Lack of spares or expertise. Hence the work will be scheduled to be completed after the procurement of the required spares or specialist services.

Should the identified defect have a negative influence on the safety of persons or critical equipment - then the *Contractor* must inform the *Service Manager* (or his delegated person) to activate ACSA's relevant internal emergency procedures in an effort to mitigate the risk as fast as practicably possible.

Any breakdown impacting on operations shall be attended-to until restored to good reliable condition. This implies that no breakdown may be left unattended or incomplete for the next day or shift. The *Employer* will hold the *Contractor* liable for any costs incurred by any party as a result of negligence or unreasonable poor performance by the Contractor including excessive time taken to effect repairs.

5. WORKING ON AFFECTED PROPERTY

Without prejudice, the *Contractor* shall at all times adhere to the Airport site entry requirements.

Permits

The Contractor shall not be compensated for costs relating to ACSA required permits, or for labour/time spent in obtaining it. An allowance must be made in the Activity Schedule in this regard.

The Contractor must ensure that he/she is, always, familiar with ACSA's safety and security requirements relating to permits 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 if a permit request is refused.

The following table is not all inclusive, but is provided for illustration purposes:

| Permit | Required by/for | Department |
|--|------------------------------------|-------------|
| AVOP – Airside Vehicle Operator permit | All drivers of vehicles on airside | ACSA Safety |
| Airside Vehicle Permit | All vehicles that enter airside | ACSA Safety |

| Basement Parking permit | All vehicles allowed to enter the delivery basement | ACSA Parking |
|-------------------------|---|---------------|
| Personal permit | All persons employed on the airport | ACSA Security |
| Cell phone permit | All persons taking cell phones to airside | ACSA Security |
| Lap top permit | All persons taking lap top computers to airside | ACSA Security |
| Camera permit | All persons taking cameras or camera equipment to airside | ACSA Security |
| Hot Works Permit | All welding and/metal cutting work | ACSA Safety |

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.

Proof of compliance with the law

The Service Manager may at any time request from the Contractor reasonable proof that the Contractor is in compliance with a law or regulation.

Provided by the Contractor

The contractor will provide necessary tools, equipment, Protective Clothing and all consumables required to conduct the service.

Records of Contractor's Equipment

The contractor is to keep record of equipment used on site. The record sheet should contain all the equipment relevant information I.e. The record will be checked by Aviation Security during both entry and exit to the Airside.

At the start of the contract, the contractor must submit a detailed list (make, model, serial number etc.) of equipment and tools that will be taken and used on ACSA premises - for approval by the *Service Manager*. This list must be approved regularly as and when tools and equipment are added or removed from it.

As part of the monthly report the contractor need to indicate in writing when extraordinary equipment (outside of the original equipment list referred to above) will / have been brought onto (or removed from) ACSA premises. If need be a special permission slip for this must be formulated to be signed by the Service Manager for this purpose.

The various approved lists must be at all times made available to the AVSEC department (including their contracted service provider) on request.

ANNEXES to C3 (Service information)

| Title | Annex number |
|---|--------------|
| Schedule of Equipment | Annex A |
| Service Kits & Insulation Oil Analysis | Annex B |
| Service Level Agreement | Annex C |
| OHS Act Appointment by Contractor | Annex D |
| Environmental Terms and Conditions | Annex E |
| Schedule of Tools and Special Equipment | Annex F |
| Resource proposal | Annex G |
| Suggested Maintenance Programme | Annex H |
| | |

ANNEX A

SCHEDULE OF EQUIPMENT - MV/LV SWITCHGEAR & TRANSFORMERS

M TRANSFORMERS

| Description | Quantity | OEM | Rating | Medium | Location |
|-------------|----------|------------------|----------|-----------|-------------------------|
| • | | (Manufacturer) | | (Oil/Dry) | |
| Transformer | 1 | ACTOM | 1000 kVA | ONAN | Sub-A Tx Room |
| Transformer | 1 | ACTOM | 1000 kVA | ONAN | Sub-A Tx Room |
| Transformer | 1 | Transformator | 25 kVA | ONAN | Sub-A Tx Room |
| Transformer | 1 | GEC | 100 kVA | ONAN | Sub-A Tx Room |
| Transformer | 1 | GEC | 100 kVA | ONAN | Sub-A Tx Room |
| Transformer | 1 | GEC | 100 kVA | ONAN | Substation B Substation |
| Transformer | 1 | GEC | 100 kVA | ONAN | В |
| Transformer | 1 | GEC | 250 kVA | ONAN | Substation C |
| Transformer | 1 | Chemrotech Power | 150 kVA | ONAN | Tx-B, GA Area |
| Transformer | 1 | Free State Tx | 50 kVA | ONAN | VOR next to TWY Alpha |
| Transformer | 1 | Free State Tx | 50 kVA | ONAN | Sub-A Tx Room |
| Transformer | 1 | Free State Tx | 50 kVA | ONAN | MET RADAR Station |
| Transformer | 1 | DIMAKO | 5.5 kVA | ONAN | Sub-A Tx Room |
| Transformer | 1 | Transformator | 5 KVA | ONAN | Main Windsock Supply |
| Transformer | 1 | TECO | 12 kVA | ONAN | Sub-A Tx Room |
| | | | | | |

CIRCUIT BREAKERS AND SWITCHBOARDS

| Description | Medium | OEM & Model | Quantity | Location |
|-----------------|--------|------------------------|----------|-----------------------------------|
| | | | | |
| Circuit Breaker | Oil | ABB | 4 | Main-substation |
| Circuit Breaker | Oil | ABB SACE E1 | 2 | Diesel Generator Control Panel |
| Circuit Breaker | Oil | ABB SACE E1 | 2 | Diesel Generator Control Panel |
| Circuit Breaker | Vacuum | SIEMENS MARGOTT 8BF00R | 8 | Substation A |
| Ring Main Unit | SF6 | CE2 200A | 1 | Boulevard |
| RMU | SF6 | CE2 200A | 1 | Boulevard |
| RMU | SF6 | CE2 200A | 1 | Boulevard |
| | | , | | , |

MINI SUBSTATIONS

| Description (Make) | OEM & Model | Transformer Size | Location |
|--------------------|--------------|------------------|-----------------------------|
| | | | |
| Mini Substation | ABB FBX-C | 500 kVA | Boulevard |
| Mini Substation | ABB FBX-C | 500 kVA | Boulevard |
| Mini Substation | ABB FBX-C | 500 kVA | Boulevard |
| Mini Substation | GEC T3-OF | 350 kVA | Behind Car Rental Depots |
| Mini Substation | Alstom K3 AF | 315 kVA | Road Lodge Hotel |
| | | | |

CABLING

| Description | Cable size | Туре |
|-------------|------------|--------------------|
| 3 cores | 95mm2 | XLPE |
| 3 cores | 70 mm2 | XLPE |
| 3 cores | 35 mm2 | Paper |
| 4 cores | 240mm | PVC armoured cable |
| 4 cores | 185 | PVC armoured cable |
| 4 cores | 120 | PVC armoured cable |
| 4 cores | 95 | PVC armoured cable |
| 4 cores | 70 | PVC armoured cable |
| 4 cores | 50 | PVC armoured cable |
| 4 cores | 35 | PVC armoured cable |
| 4 cores | 25 | PVC armoured cable |
| 4 cores | 16 | PVC armoured cable |
| 4 cores | 10 | PVC armoured cable |

ANNUAL TRANSFORMER OIL ANALYSIS

| Description | Test |
|-------------|------|
| | |

| | Di-Electric Strength |
|--------------|-------------------------|
| | Moisture Content |
| Oil Analysis | Furanics |
| Oil Analysis | PCB Analysis |
| | Total Acid Number (TAN) |
| | Dissolved Gas Analysis |
| | Corrosive Sulphur |

ANNEX B

SERVICE KITS ITEMS

The Contractor shall provide **all** spares necessary for the execution of the works as per OEM requirements. Table indicates minimum recommended items. Contractor should complete the list as deemed appropriate to meet the OEM requirements

| Number | Transformer Service Kit | Switchgear Service Kit |
|--------|-------------------------|------------------------|
| 1 | | |
| 2 | | |
| 3 | | |
| 4 | | |
| 5 | | |
| 6 | | |
| 7 | | |
| 8 | | |
| 9 | | |
| 10 | | |
| 11 | | |
| 12 | | |
| 13 | | |
| 14 | | |

ANNEX C

SERVICE LEVEL AGREEMENT

Operational hours

Normal airport operational hours shall be **from 05:00 to 20:00** for every day of the year, but will be confirmed/amended by the Service Manager from time to time. The Contractor must allow for sufficient after-hours work for scheduled work not to interfere with airport operations.

Minimum Staffing Schedule

The Contractor must maintain the following **minimum** staff available when required and should price for them accordingly:

| Skill | Quantity | Frequency |
|-------------|----------|---------------|
| Supervisor | 1 | When required |
| Electrician | 1 | When required |
| Assistant | 1 | When required |

The Contractor must have additional resources available to attend to lengthy breakdowns or breakdowns of a specialised nature.

It shall be the Contractor's responsibility to ensure that all relevant labour and safety legislation is adhered to in rostering staff.

The Contractor shall schedule staff to complete the preventative maintenance schedule accordingly. The Tenderer must ensure that sufficient allowance for all these items is made for in his/her pricing in the Activity Schedule.

Response Times

| Description | Benchmark | | |
|--|--|--|--|
| Availability | Notwithstanding the closure time required for breakdowns requiring spare part(s) or a second level of response; Switchgear and transformers availability shall be maintained at or above 99.5% overall per month. | | |
| Response time | All breakdowns shall be responded to within: > 60 minutes from the time the breakdown is logged with the Infrastructure Management and Control Centre (Help desk) during normal working hours > 1.5 hours from the time the breakdown is logged with the Infrastructure Management and Control Centre (Help desk) afterhours | | |
| Closure Duration | All breakdowns shall be resolved within: ➤ 3 hours from the time the breakdown is logged with the Infrastructure Management and Control Centre (Help desk) | | |
| % of planned maintenance completed per month | 100% of all planned maintenance shall be completed per quarter | | |

Human resources

The following minimum standards shall apply to resourcing:

- For all call-outs: Considering current airport access control infrastructure and security arrangements and considering the physical layout of the apron, the Contractor shall ensure a sufficient quantity and effective positioning of staff to meet or exceed the Service Level Agreement.
- 2. The rostered maintenance staff compliment shall be sufficient to perform all required preventative maintenance for each month.
- 3. During operational hours, the Contractor shall respond in accordance to the S.L.A to successfully attend to breakdowns.
- 4. During operational hours, the Contractor shall have at least one senior person who will respond to the call outs who:
 - a) Is suitably qualified and experienced to resolve breakdowns and system stoppages.
 - b) Is suitably qualified and experienced to work on MV/LV Switchgear and Transformers.
 - c) Is able to successfully interact with OEM personnel.
 - d) Is of a level of seniority to successfully direct and manage Contractor staff and possible sub-contractors during system breakdowns and can successfully interact with airport operational staff and airport management.

Staff qualifications

It will always remain the Contractor's responsibility to ensure that staff is suitably qualified and experienced for the duties expected of them. Further all applicable legislative requirements must be adhered to in rostering staff.

ACSA reserves the right to verify all personnel employed under this contract. Furthermore, ACSA reserves the right to order that personnel that are not adequately qualified or suited for this contract are removed from the site.

The Contractor must comply and respond to the following:

*Compliance to benchmarks will be calculated on a weekly average except on repairs that will be calculated on a monthly average. The total operational hours for the respective week/month shall be used as a guide. The only exceptions will be stoppages due to mains electricity supply failures and/or where ACSA has refused system repairs and/or adequate access to the site.

All the responses to the above stoppages shall be dispatched from the ACSA Infrastructure Monitoring Centre (IMC).

Once the Contractor has arrived on site he/she must notify the IMC of the problem found and the expected resolution time of the problem.

Finally, once the problem has been resolved the contractor will advise the IMC of the resolution.

*Availability will be calculated on a monthly average. This will include all stoppages, even if such stoppages are not under the Contractor's control. The only exceptions will be stoppages due to mains electricity supply failures and/or where ACSA has refused system repairs and/or adequate access to the site. The total operational hours for the respective week/month shall be used as a measure for calculating availability. All other benchmarks above will be calculated on a weekly average. Reports will be provided by the ACSA Computerised Maintenance Management System.

Defect free liability period

| Defect free liability period - corrective or | The defect free period will be no less than 90 days. |
|--|--|
| breakdown maintenance | |
| Defect free liability period – project work | The defect free period will be no less than 12 |
| | months. |

Penalty scheme

Parties agree to the following penalty scheme. The penalty scheme does not influence the calculation of the contract sum/value. The amounts listed in this addendum will not be subjected to any future contract escalation and exclude VAT.

This addendum may not be terminated for convenience.

Penalties

ACSA must notify the contractor in writing of its intention to claim a penalty within 30 days of an event. Should ACSA not claim a penalty for an event it shall not be interpreted that the level of performance is acceptable or that ACSA shall not be entitled to claim penalties for similar future events. Under no circumstances shall a penalty be regarded as the only action ACSA may take against the Contractor or the only amount it may claim from the Contractor.

Penalties are limited to a maximum of R 8,000.00/month.

Penalty breakdown

| Where a repair cannot be completed the same day due to the unavailability of a spare part. | R 2 500.00 (unless the unavailability of the spare part was agreed to by the Service Manager or his/her duly |
|--|--|
| Leaving a breakdown unattended or incomplete for another day or shift. | authorised representative) R 2 000.00 (unless the delay in repair was agreed to by the Service Manager or his/her duly authorised representative or unless the required spares are not available to complete the work) |
| Not maintaining the required minimum on-site staff requirements for planned maintenance. | R 1 000.00/position/day |
| Safety infringement (for example: leaving moving machinery exposed) | R 5 000.00 per incident |
| Availability not meeting requirements | R 2 000.00 per month |

Continuous Improvement Program and the Computerized Maintenance Management System It is hereby required that the Contractor ensures that a continuous improvement program is in place. For example, the criteria below may be used but not only limited to the items mentioned below.

- 1. An improvement in the availability of systems
- 2. An improvement on the minimization of spares holding (for example by increasing Mean Time to Failure of components)
- 3. Etc.

As mentioned above this list is not comprehensive and it is only used for illustrative purposes. Upon implementation of the contract the Employer and the Contractor shall agree targets for the continuous improvement program.

It is important to note that continuous improvement will only apply to those items that meet minimum benchmarks. Continuous improvement initiatives shall be reviewed every quarter or when deemed necessary by the Employer or the Contractor.

Non-Conformance Report

In the event of any irregularity concerning contractor performance the report attached in the following page will be completed by an ACSA representative and signed by the respective contractor's representative.

| Contractor name | | | | | | | | |
|------------------------------------|-------------------------|--------------|----------------------|-------------|-------------------------------|------------|-------------------------|--|
| Contract/Service descr | ription | | | | | | | |
| Contract number | | • | | Refere | nce docum | ent | | |
| Number of non-conform | mances a | Irea | dy issued against | the contr | actor | • | | |
| Location of Non-confo | rmance | | | | | • | | |
| Description of Non-cor | nformanc | e: | • | | | | | |
| | | | | | | | | |
| ACSA Representative's | s Departn | nent | | | | | | |
| | | | • | | | | | |
| ACSA Representative | Name | | Signature | | D | ate | Response date required | |
| | | | | | | | | |
| ACSA Representative' Address | s Email | | Telephone | | C | ell | Facsimile | |
| | | | | | | | | |
| CONTRACTOR'S REPR | RESENTA | TIVE | E: Acknowledgeme | nt of unde | rstanding of | above No | on-Conformance | |
| | | | | | | | | |
| Recipient/Reps Name | Э | | Signature | | Title | | Date | |
| | | | | | | | | |
| | Email address Telephone | | Cell | | | Facsimile | | |
| contractor's Response: (A) Cause | | | (B) Immediate C | orrective A | Action | (C) Actio | n to Prevent Recurrence | |
| (D) Corrective Action Implementati | | | tion Date: (E) | |) Preventing Recurrence Imple | | plementation Date: | |
| 5 | | | | | | | | |
| Recipient/Reps Name | | | Signature Astion | | Title | occuted | Date | |
| ACSA Representative: | Evaluati | on o | Proposed Correct | ive Action | А | ccepted | Rejected | |
| Comments | , | | | | | | | |
| | | | | | | | | |
| Name | Signature | | | Title | | | Date | |
| CONTACTOR REPRES | ENTATIV | E : C | Corrective Action In | nplemente | d to ACSA | and contra | ct requirements | |
| | | | | | | | | |
| Recipient/Reps N | | | Signature | | | | Date Implemented | |
| ACSA Representative: | Follow u | ıp an | d close out | | А | ccepted | Rejected | |
| Comments | | | | _ | | | | |
| | | | | | | | | |
| Name | Signature | | | Titlo | | Data | | |

NON-CONFORMANCE REPORT (NCR) PROCESS

- The **ACSA representative** notices any irregularity concerning contractor performance, quality, deviation from contract, etc. and fills out this form.
- 2 The **ACSA representative** completes the first part of the form and issues it directly to the **Contractor's representative**.
- 3 The *Contractor's representative* signs acceptance and understanding of the NCR
- The **ACSA representative** gives a copy of this signed NCR to the Infrastructure Asset Management manager's office for filing and noting.
- The *Contractor's representative* informs his relevant internal management of the NCR and compiles a response indicating (A) Cause, (B) Corrective Action, (C) Action to Prevent Recurrence, (D) Corrective Action Implementation Date and (E) Action to Prevent Recurrence Implementation Date.
- The *Contractor's representative* submits the response e-mail / fax .to the *ACSA* representative for evaluation of the Proposed Corrective Action Response by completing the relevant sections before carrying out the Corrective Action.
- The **ACSA** representative informs the **Contractor's** representative of the result of the evaluation, by responding via e-mail / fax.
- Note: If the response is not adequate, the *Contractor's representative* must re-submit a solution.
- 9 Upon completion of the corrective action and verification thereof, the *Contractor's representative* then informs the *ACSA representative* by responding via e-mail / fax that the corrective action has been carried out and is ready for inspection.
- 10 The **ACSA representative's** relevant personnel, carries out a check on the Corrective Action, as well as the Action to Prevent Recurrence and if found to be conforming to requirements, closes out the NCR.
- 11 The **ACSA representative** returns the concluding results to the **Contractor's** representative via e-mail / fax.
- 12 If the original situation still exists, and the NCR cannot be closed out, the **ACSA representative** or relevant personnel raises a new NCR, and the same procedure as above is repeated.
- 13 Contractors to note that inadequate response to these NCRs, repeated NCRs issues against the contractor (3 repetitions is unacceptable in any one contract period) or non-acceptance of the contractor's corrective action by ACSA may lead to cancellation of the contract.
- 14 These NCRs may also be used as an indicator of poor performance by a contractor and may affect the adjudication of subsequent tenders to a contractor.

Note: All parties shall ensure that no delays are caused in the above chain of events. The shaded areas are to be completed by the *Contractor's representative*

ANNEX D

OCCUPATIONAL HEALTH AND SAFETY AGREEMENT IN TERMS OF SECTION 37(2) OF THE OCCUPATIONAL HEALTH & SAFETY ACT (ACT 85 Of 1993) & CONSTRUCTION REGULATION 5.1(k)

OBJECTIVES

To assist Airport Company South Africa (ACSA) to comply with the requirements of:

- 1. The Occupational Health & Safety (Act 85 of 1993) and its regulations and
- 2. The Compensation for Occupational Injuries & Diseases Act (Act 130 of 1993) also known as the (COID Act).

To this end an Agreement must be concluded before any contractor/ subcontracted work may commence

The parties to this Agreement are:

AIRPORTS COMPANY SOUTH AFRICA SOC Limited

Name of Organization:

| Physical Address: | |
|--|--|
| Bram Fischer International Airport | |
| N8 Thaba Nchu Road | |
| Bloemfontein | |
| Free State | |
| 9300 | |
| Name of organisation: | |
| Physical Address: | |
| Hereinafter referred to as "the Mandatary/ Principal Contractor" | |

MANDATORY'S MAIN SCOPE OF WORK

| To be completed by contractor |
|-------------------------------|
| |
| |
| |
| |
| |
| |
| |
| |
| |
| |
| |
| |
| |
| |

GENERAL INFORMATION FORMING PART OF THIS AGREEMENT

- 1. The Occupational Health & Safety Act comprises of SECTION 1-50 and all un-repealed REGULATIONS promulgated in terms of the former Machinery and Occupational Safety Act No.6 of 1983 as amended as well as other REGULATIONS which may be promulgated in terms of the Act and other relevant Acts pertaining to the job in hand.
- 2. "Mandatary" is defined as including as agent, a principal contractor or a contractor for work, but WITHOUT DEROGATING FROM HIS/HER STATUS IN HIS/HER RIGHT AS AN EMPLOYER or user of the plant
- 3. Section 37 of the Occupational Health & Safety Act potentially punishes Employers (PRINCIPAL CONTRACTOR) for unlawful acts or omissions of Mandataries (CONTRACTORS) save where a Written Agreement between the parties has been concluded containing arrangements and procedures to ensure compliance with the said Act BY THE MANDATARY.
- 4. All documents attached or refer to in the above Agreement form an integral part of the Agreement.
- 5. To perform in terms of this agreement Mandataries must be familiar and conversant with the relevant provisions of the Occupational Health & Safety Act 85 of 1993 (OHS Act) and applicable Regulations.
- 6. Mandatories who utilize the services of their own Mandatories (contractors) must conclude a similar Written Agreement with them.
- 7. Be advised that this Agreement places the onus on the Mandatary to contact the CLIENT in the event of inability to perform as per this Agreement.
- 8. This Agreement shall be binding for all work the Mandatary undertakes for the client.
- 9. All documentation as per the Safety checklist including a copy of the written Construction Manager appointment in terms of construction regulation 8, must be submitted 7 days before work commences.

THE UNDERTAKING

The Mandatary undertakes to comply with:

INSURANCE

1. The Mandatary warrants that all their employees and/or their contractor's employees if any are covered in terms of the COID Act, which shall remain in force whilst any such employees are present on the Client's premises. A letter is required prior commencing any work on site confirming that the Principal contractor or contractor is in good standing with the Compensation Fund or Licensed Insurer.

- 2. The Mandatary warrants that they are in possession of the following insurance cover, which cover shall remain in force whilst they and /or their employees are present on the Client's premises, or which shall remain in force for that duration of their contractual relationship with the Client, whichever period is the longest.
 - Public Liability Insurance Cover as required by the Subcontract Agreement.
 - Any other Insurance cover that will adequately makes provision for any possible losses and/or claims arising from their and /or their Subcontractors and/or their respective employee's acts and/or omissions on the Client's premises.

COMPLIANCE WITH THE OCCUPATIONAL HEALTH &SAFETY ACT 85 OF 1993

The Mandatary undertakes to ensure that they and/or their subcontractors if any and/or their respective employees will always comply with the following conditions:

- All work performed by the Mandatary on the Client's premises must be performed under the close supervision of the Mandatary's employees who are to be trained to understand the hazards associated with any work that the Mandatary performs on the Client's premises.
- 2. The Mandatary shall be assigned the responsibility in terms of Section 16(1) of the OHS Act 85 of 1993, if the Mandatary assigns any duty in terms of Section 16(2), a copy of such written assignment shall immediately be forwarded to the Client.
- 3. The Mandatary shall ensure that he/she familiarise himself/herself with the requirements of the OHS Act 85 of 1993 and that s/he and his/her employees and any of his subcontractors comply with the requirements.
- 4. The Mandatary shall ensure that a baseline risk assessment is performed by a competent person before commencement of any work in the Client's premises. A baseline risk assessment document will include identification of hazards and risk, analysis and evaluation of the risks and hazards identified, a documented plan and safe work procedures to mitigate, reduce or control the risks identified, and a monitoring and review plan of the risks and hazards.
- 5. The Mandatary shall appoint competent persons who shall be trained on any Occupational Health & Safety aspect pertaining to them or to the work that is to be performed.
- 6. The Mandatary shall ensure that discipline regarding Occupational Health & Safety shall be strictly enforced.
- 7. Any personal protective equipment required shall be issued by the Mandatary to his/her employees and shall be worn at all times.
- 8. Written safe working practices/procedures and precautionary measures shall be made available and enforced and all employees shall be made conversant with the contents of these practises.
- No unsafe equipment/machinery and/or articles shall be used by the Mandatary or contractor on the Client's premises.
- 10. All incidents/accidents referred to in OHS Act shall be reported by the Mandatary to the Provincial Director: Department of Labour as well as to the Client.
- 11. No user shall be made by the Mandatary and/or their employees and or their subcontractors of any of the Client's machinery/article/substance/plant/personal protective equipment without prior written approval.
- 12. The Mandatary shall ensure that work for which the issuing of permit is required shall not be performed prior to the obtaining of a duty completed approved permit.
- 13. The Mandatary shall ensure that no alcohol or any other intoxicating substance shall be allowed on the Client's premises. Anyone suspected to be under the influence of alcohol or any other intoxicating substance shall not be allowed on the premises. Anyone found on the premises suspected to be under the influence of alcohol or any other intoxicating substance shall be escorted off the said premises immediately.

14. Full participation by the Mandatary shall be given to the employees of the Client if and when they inquire into Occupational Health & Safety.

FURTHER UNDERTAKING

- 1. Only a duly authorised representative appointed in terms of Section 16.2 of the OHS Act is eligible to sign this agreement on behalf of the Mandatary. The signing power of this representative must be designated in writing by the Chief Executive Officer of the Mandatary. A copy of this letter must be made available to the Client.
- 2. The Mandatary confirms that he has been informed that he must report to the Client's management, in writing anything he/she deems to be unhealthy and /or unsafe. He has versed his employees in this regard.
- 3. The Mandatary warrants that he/she shall not endanger the health & safety of the Client's employees and other persons in any way whilst performing work on the Client's premises.
- 4. The Mandatary understands that no work may commence on the Client's premises until this procedure is duly completed, signed and received by the Client.
- Non-compliance with any of the above clauses may lead to an immediate cancellation of the contract.

ACCEPTANCE BY MANDATARY

| In terms of section 37(2) of the Occupational Heal Construction Regulations 2014, | Ith & Safety Act 85 of 1993 and section 5.1(k) |) of the |
|--|--|----------|
| I, authorised 16.2 Appointee acting for and on beh ensure that the requirements and the provision complied with. | alf of under | take to |
| Mandatary – WCA/ Federated Employers Mutual N | No | |
| Expiry date | | |
| SIGNATURE ON BEHALF OF MANDATARY | | |
| (Warrant his authority to sign) | | |
| | | |
| SIGNATURE ON BEHALF OF THE CLIENT AIRPORT COMPANY SOUTH AFRICA | DATE | |

ANNEX E

ACSA SERVICE & MAINTENANCE CONTRACTORS ENVIRONMENTAL TERMS AND CONDITIONS TO COMMENCE WORK - EMS 048

The following Environmental Terms and Conditions shall be strictly adhered to by all contractors when conducting works for ACSA. ACSA shall audit contractor activities, products and services on an ad hoc basis to ensure compliance to these environmental conditions. Any pollution clean-up costs shall be borne by the contractor.

| ISSUE | REQUIREMENT | | | | | |
|---|---|--|--|--|--|--|
| Environmental Policy | ACSA's Environmental Policy shall be communicated, comprehended and implemented by all ACSA appointed contractor staff. | | | | | |
| | No solid or liquid material may be permitted to contaminate or potentially contaminate storm water, soil or groundwater resources. | | | | | |
| Storm water, Soil and Groundwater | Any pollution that risks contamination of these resources must be cleaned-up immediately. Spills must be reported to ACSA immediately. Contractors shall supply their own suitable clean-up materials where required. | | | | | |
| Pollution | Washing, maintenance and refuelling of equipment shall only be allowed in designated service areas on ACSA property. It is the contractor's responsibility to determine the location of these areas. | | | | | |
| | No leaking equipment or vehicles shall be permitted on the airport. | | | | | |
| | Dust: Dust resulting from work activities that could cause a nuisance to employees or the public shall be kept to a minimum. | | | | | |
| Air Pollution | Odours and emissions: All practical measures shall be taken to reduce unpleasant odours and emissions generated from work related activities. | | | | | |
| | Fires: No open fires shall be permitted on site. | | | | | |
| Noise Pollution | All reasonable measures shall be taken to minimize noise generated on site due to work operations. | | | | | |
| | The Contractor shall comply with the applicable regulations regarding noise. | | | | | |
| | Waste shall be separated as general or hazardous waste. | | | | | |
| | General and hazardous waste shall be disposed of appropriately at a permitted landfill site should recycling or re-use of waste not be feasible. | | | | | |
| | Under no circumstances shall solid or liquid waste be dumped, buried or burnt. | | | | | |
| | Contractors shall maintain a tidy, litter free environment always in their work area. | | | | | |
| Waste | Contractors must keep on file: | | | | | |
| Management | The name of the contracting waste company | | | | | |
| | Waste disposal site used | | | | | |
| | Monthly reports on quantities – separated into general, hazardous and recycled | | | | | |
| | Maintained file of all Waste Manifest Documents and Certificates of Safe Disposal | | | | | |

| | Copy of waste permit for disposal site |
|------------------------------------|---|
| | This information must be available during audits and inspections. |
| | All HCS shall be clearly labelled, stored and handled in accordance to Materials Safety Data Sheets. |
| Handling & | Materials Safety Data Sheets shall be stored with all HCS. |
| Storage of Hazardous Chemical | All spillages of HCS must be cleaned-up immediately and disposed of as hazardous waste. (HCS spillages must be reported to ACSA immediately). |
| Substances (HCS) | All contractors shall be adequately informed with regards to the handling and storage of hazardous substances. |
| | Contractors shall comply with all relevant national, regional and local legislation regarding the transport, storage, use and disposal of hazardous substances. |
| Water and Energy Consumption | ACSA promotes the conservation of water and energy resources. The contractor shall identify and manage those work activities that may result in water and energy wastage. |
| Training & | The conditions outlined in this permit shall be communicated to all contractors and their |
| Awareness | employees prior to commencing works at the airport. |

Penalties

Penalties shall be imposed by ACSA on Contractors who are found to be infringing these requirements and/or legislation. The Contractor shall be advised in writing of the nature of the infringement and the amount of the penalty. The Contractor shall take the necessary steps (e.g. training/remediation) to prevent a recurrence of the infringement and shall advise ACSA accordingly.

The Contractor is also advised that the imposition of penalties does not replace any legal proceedings, the Council, authorities, land owners and/or members of the public may institute against the Contractor.

Penalties shall be between R200 and R20 000, depending upon the severity of the infringement. The decision on how much to impose will be made by ACSA's Airport Environmental Management Representative in consultation with the Airport Manager or his/her designate, and will be final. In addition to the penalty, the Contractor shall be required to make good any damage caused due to the infringement at his/her own expense.

| I, | | | of | | | | . agree |
|--------------|----------------|---------------|-----------------------------------|--------|------|--------|---------|
| to the above | conditions and | l acknowledge | ACSA's right to with these condit | impose | | | |
| Signed: | | | on this date: | | | (dd/mm | /yyyy) |
| at· | | | | | | | |

ANNEX F

TOOLS AND SPECIAL EQUIPMENT

The Contractor shall have **all** Tools and Special Equipment, necessary for the execution of the works, either on site or readily available at his/her premises. The principle that applies to Tools and Special Equipment is that downtime must be kept to an absolute minimum. Any **exclusion** to the above should be listed with the lead-time required to deliver same to site.

| Number | Item description | Lead time |
|--------|------------------|-----------|
| 1 | | |
| 2 | | |
| 3 | | |
| 4 | | |
| 5 | | |
| 6 | | |
| 7 | | |
| 8 | | |

ANNEX G

RESOURCE PROPOSAL

The Contractor shall include a detailed resource proposal (including an organogram for on-site personnel) at the bidding stage. This shall, as a minimum, include the quantity of staff (regarding level of skill and formal training of each) and how/where they will be deployed and utilised under this contract. This must also include a proposed shift roster and deployment schedule.

ANNEX H

SUGGESTED MAINTENANCE PROGRAMME

The Contractor shall include a suggested maintenance programme that must cover all requirements under this contract.

All Preventive Maintenance shall be scheduled, at least, to the requirements of the following table. The contractor shall ensure that all maintenance is done in accordance with the OEM requirements. As a minimum, the Contractor must perform the following:

Maintenance Schedule for MV/LV Switchgear & Transformer Sets

Switchgear

| Switch | Yearly Maintenance - MV Switchgear |
|--------|--|
| Item | Description |
| 1 | MV Board Housing Panel: Check integrity of panel structure Clean the casing with a vacuum cleaner and a dry cloth. Check and record the phase to phase and phase to casing insulation resistance Cleaning products with solvents are strictly prohibited. |
| 2 | Cabling and Termination Accessories: • Visual inspection. Check for signs of burn marks |
| 3 | Circuit Breakers (Oil and Air) Continuity Test Contact Resistance Test Circuit Breaker Speed Test Functional Testing (Oil) Inspect condition of arc chutes / extinguishers. Ensure there is no significant damage to the chutes. Inspect the air filters on the air breaker arc chutes. Vacuum clean the arc chute Inspect contact wear levels on the main breaker |
| 4 | Visual inspection Check alignment Check VT fuses Test CT knee point voltage (if possible) Test for the CT saturation curve (if necessary) |
| 5 | Metering Equipment: • Calibration and Testing |
| 6 | Protection Equipment: (Relays, Transducers, Communication Devices etc.) Calibration and Testing (where required) Ensure that the protection settings are according to design Check the response time of the breaker |
| 7 | Indication Lighting: • Visual inspect • Test for functionality |

| | Battery Tripping Unit: |
|----|---|
| 8 | Clean tripping batteries and terminals Top up cells with distilled water Check battery charger for loose connections and tighten if required Ensure TRICKLE charge operational Measure and record battery voltage Check Amp/Volt meters for proper operation |
| 9 | Operating Mechanisms Open and close the mechanism to verify its integrity Vacuum clean the compartment Ensure all moving parts are adequately lubricated. Check the operation and charging time of the gear motor For breakers that are linked to the generator, simulate a change-over to ensure the breaker operates |
| 11 | Circuit Breakers (Air): |
| 12 | Perform thermographic scans on bus connections and breakers contacts. (A thorough risk assessment is required) |

Maintenance Schedule for LV Switchboards

| Yearly Inspection and Maintenance – 400V Switchboard | | | | |
|--|--|--|--|--|
| Item | em Description | | | |
| 1 | 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 | | | |
| 2 | Clean busbars (when safe to do so) Conduct thermographic inspection of busbar Test operation of protection circuits Ensure that the protection circuit trip settings are correct Inspect (visually) breaker frame Inspect fixed contacts Visually inspect arc – chutes Visually inspect moving contacts Inspect front cover Inspect Interphase barriers Visually Inspect Insulation blocks Visually Inspect Escutcheon | | | |

Maintenance on Electrical – Power Transformers

| | Yearly Inspection and Maintenance – Power Transformers | | | |
|------|--|--|--|--|
| Item | | | | |
| 1 | Oil Transformer – Major Maintenance: Over-all visual inspection Inspection for oil leaks, active silica gel colour and any flags on the protection devices 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) Check temperature gauge and record the temperature | | | |
| 2 | Check oil levels according to the SANS 555 Functional 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. 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 | | | |
| 3 | Oil Analysis (Annex B) Transformer oil tests and analysis; (If PCB's are present remove and replace the oil immediately); and the PCB contaminated oil must be safely disposed of: SANS 290 provides guidelines for the management of PCB in mineral insulating oils. 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. Replace the existing insulating oil in the oil filled circuit breaker with new or reconditioned insulating oil (as required) | | | |
| 4 | Dry Type Transformer: Major Maintenance Activities Visual inspection of the complete installation 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) Check temperature gauge and record the temperature. | | | |
| 5 | 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 | | | |

Yearly Inspection on Power Factor Correction Equipment

| | Yearly Maintenance – Power Factor Correction | | | | |
|------|--|--|--|--|--|
| Item | Description | | | | |
| 1 | Visual Inspection: Inspect panel for missing labels Inspect panel meters for correct operation Inspect protection relays for fault flags 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 | | | | |
| 2 | Battery Tripping Unit (PFC Equipment): Clean tripping batteries and terminals Top up cells with distilled water Check battery charger for loose connections and tighten if required Ensure TRICKLE charge operational Measure and record battery voltage Check Amp/Volt meters for proper operation | | | | |
| 3 | 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 | | | | |

Yearly Inspection on Mini-Substation

| Yearly Inspection on Mini-Substation | | | | | | |
|--------------------------------------|---|--|--|--|--|--|
| Item | | | | | | |
| 1 | Check if General Signage is still attached to LV Door Check mini substation labelling, if the name stenciled 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 | | | | | |
| 2 | 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 | | | | | |
| | Machaniael (Mini eub) | | | | | |
| 3 | Mechanical (Mini-sub) 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 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 for operating handles available on site | | | | | |
| | | | | | | |
| 4 | Oil/Gas (Mini-sub) 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 on the Switchgear | | | | | |
| 5 | Breakers / Fuses (Mini-Sub) 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 phase | | | |
| | 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 overall contained in 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 | | | |
| | 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 interface seal if intact | | | |
| | | | | |
| | Maintenance: | | | |
| | 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 | | | |
| 6 | Check LV breakers if mounted properly | | | |
| | Check/test for loose connections on the LV breakers | | | |
| | | | | |
| | | | | |
| | Check or test fuses if they are in a good condition Check transferment and the intent Check transferment and transferment and the intent Check transferment and transferment and the intent Check transferment and trans | | | |
| | 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 | | | |
| | Test for Oil condition | | | |
| | Circuit Breakers (Minimum): | | | |
| | Test the functional performance of the oil/air/gas circuit breaker | | | |
| | Clean the switch of the oil/air/gas/vacuum circuit breaker | | | |
| | Lightly lubricate the operating mechanism of the oil/air/gas/vacuum circuit breaker | | | |
| | Test the functional performance of the oil filled circuit breaker and/or Isolator (Not) | | | |
| _ | Applicable for Sealed Type enclosures) | | | |
| 7 | Clean the internal mechanism, contacts and the oil tank of the oil filled circuit | | | |
| | breaker | | | |
| | Dress, refurbish or replace contacts of the oil filled circuit breaker as appropriate | | | |
| | Replace oil filled circuit breaker seals and gaskets | | | |
| | Adjust mechanisms of the oil filled circuit breaker | | | |
| | Test electrical protection of the oil filled circuit breaker | | | |
| | - 100t Globinous protobilors of the on filled directly broaker | | | |
| | | | | |

Yearly Inspection on Ring Main Units

| Yearly Inspection on Ring Main Unit | | | | |
|---|---|--|--|--|
| Item | Description | | | |
| 1 | Labelling: Check if general Signage is still attached Check RMU labelling, if the name stenciled 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 labelling standard | | | |
| 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 unauthorised access and 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 | | | | |
| 3 | Oil/Gas: Check oil leaks Check the oil level on the Switchgear (oil RMU) Ensure RMU is sufficiently pressurised as per OEM specification (gas RMU) Breakers / Fuses Check if all safety barriers are still in position and no live connections exposed. 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 phase 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 for grass and weeds on outer side of mini sub that needs to be removed. Check for back-filling if it needs attention. | | | |
| 4 | Perform infrared scan on major electrical connections | | | |

After the Annual Service, a Service Report per substation shall be submitted to the organisation

C4 Site Information

ANNEXES to C4 (Service information)

| Title | Annex number |
|------------------------------|--------------|
| | |
| Contractor's Organogram | Annex I |
| Planned Maintenance Schedule | Annex J |
| | |
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| | |
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| | |
| | |

ANNEX I

Contractors Organogram

ANNEX J

Contractor's Maintenance Schedule