C1.1 Forms of Offer and Acceptance

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

MAINTENANCE OF ELEVATORS

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	
Value Added Tax @ 15% is	
The total offered amount due inclusive of VAT is	
(in words)	

(The above amount should be calculated as per the guide provided in the Pricing Data [Subtotal F]. In the event of any conflict between the amount above and the Pricing Data [Subtotal F], the former shall prevail.)

for the Contractor

Signature . . . . . Date . . . . . .

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

(Name and address of organisation) . . . . . .

. . . . . .

. . . . . .

Name and signature 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 Contractor before the end of the period of validity stated in the tender data, whereupon the Contractor 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 Contractor 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 Contractor receives one fully completed original copy of this document, including the schedule of deviations (if any). Unless the Contractor (now Contractor) within five working days of the date of such receipt notifies the employer in writing of any reason why he cannot accept the contents of this agreement, this agreement shall constitute a binding contract between the parties.

for the Employer

Signature . . . . . Date . . . .

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

Airports Company South Africa,
3rd Floor ACSA North Wing Offices
O R Tambo International Airport
Kempton Park
1627

Name of witness . . . . . signature . . . . . .

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 Contractor 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 Contractor 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 Contract Data (C1.2) and Conditions of Contract;

Secondly the Pricing data;

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

Fourthly, the additional conditions of contract under these Z clauses

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 *conditions of contract* are the core clauses and the clauses for main Option:	
		A: Priced contract with price list
	dispute resolution Option:	**W1: Dispute resolution procedure**
		X1: Price Adjustment for inflation
	and secondary Options:	**X2: Changes in the law**
		X5: Sectional Completion
		X7: Delay damages
		X13: Performance Bond
		X16: Retention
		X17: Low service damages
		X18: Limitation of Liability (as amended in Option Z)
		X19: Task Order
		X20: Key performance indicators
		Z: Additional conditions of contract
	of the NEC3 Term Service Contract (April 2013)	
10.1	The *Employer* is:	**Airports Company South Africa SOC Limited (ACSA), Registration No 1993/004149/30, VAT no 4930138393, a juristic person incorporated in terms of the company laws of the Republic of South Africa**
	Address	**O. R. Tambo International Airport Private Bag X1 3rd Floor ACSA North Wing Offices OR Tambo International Airport 1627**
	Tel No.	**011 921 6911**
10.1	The *Service Manager* is:	**TBA**

Address

Tel No.

e-mail

11.2(2)	The *Affected Property* is	**O. R. Tambo International Airport**
11.2(13)	The *service* is	**Maintenance of Elevators at O.R. Tambo International Airport for a period of 5 years, as more fully set out in section C3 *Service Information*.**
11.2(14)	The following matters will be included in the Risk Register	**1. Risk of financial loss and/or injury of 3rd parties due to the proximity of the *service* (or of persons providing the *service*) to all airport users** **2. Risk of injury to contract personnel and all airport users due to lifting/moving of heavy objects** **3. Work in confined spaces** **4. Work with flammable and toxic gases** **5 Refer to Annexure C for more risks**
11.2(15)	The *Service Information* is in	**Part C3: Employer's Service Information and all documents and drawings and other specifications to which it makes reference**
12.2	The *law of the contract* is the law of	**the Republic of South Africa**
13.1	The *language of this contract* is	**English**
13.3	The *period for reply* is	**3 working days**
2	**The Contractor's main responsibilities**	**Detailed in Part C3 (Service Information)**
21.1	The *Contractor* submits a first plan for acceptance within	**8 weeks of the Contract Date**
3	**Time**	
30.1	The *starting date* is	**Upon signing of the contract by ACSA**
30.2	The *Service Period* is	**Five (5) years after signing of the contract by ACSA or when the amount in the Form of Offer has been fully expended, whichever occurs first**

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	**between the 1st and 15th 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	**Use of Equipment Plant and Materials**	**No data is required for this section of the *conditions of contract.***
8	**Risks and insurance**	
83.1	The *Employer* provides these insurances from the Insurance Table	**(i) Insurance against loss of or damage to the *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 C1.5 to the *contract* ("the Insurance Schedule").**
83.1	The *Contractor* provides these additional insurances	**Professional Indemnity Insurance** **Note: The terms and other matters applicable to this insurance provided by the Employer are likewise detailed in section C1.5 to the *contract*.**
83.2	The minimum amounts of cover or minimum limits of indemnity required for the insurance table	**Refer to section C1.5 Insurance Schedule**

83.1	The *Employer* provides these insurances from the Insurance Table	**Refer to section C1.5 Insurance Schedule**
83.1	The *Employer* provides these additional insurances	**Refer to section C1.5 Insurance Schedule**
83.1	The minimum amount of cover for insurance against loss and damage caused by the *Contractor* to the *Employer*'s property is	**Refer to section C1.5 Insurance Schedule**
83.1	The minimum amount of cover for loss of or damage to Plant and Materials provided by the *Employer* is:	**Refer to section C1.5 Insurance Schedule**
83.1	The minimum amount of cover for insurance in respect of loss of or damage to property (except the *Employer*'s property, Plant and Materials and Equipment) and liability for bodily injury to or death of a person (not an employee of the *Contractor*) arising from or in connection with the *Contractor*'s Providing the Service for any one event is:	**Refer to section C1.5 Insurance Schedule**
83.1	The minimum limit of indemnity for insurance in respect of death of or bodily injury to employees of the *Contractor* arising out of and in the course of their employment in connection with this contract for any one event is:	**As prescribed by the Compensation for Occupational Injuries and Diseases Act No. 130 of 1993 and the *Contractor's* common law liability for people falling outside the scope of the Act with a limit of Indemnity of not less than R [●] ([●] Rands)**
9	**Termination**	There is no reference to Contract Data in this section of the core clauses and terms in italics used in this section are identified elsewhere in this Contract Data.
10	**Data for main Option clause**	
A	**Priced contract with price list**	
20.5	The *Contractor* prepares forecasts of the final total of the Prices for the whole of the *service* at intervals no longer than	**4 weeks.**

11	**Data for Option W1**	
W1.1	The *Adjudicator* is	**The person selected from the ICE-SA list of Adjudicators by the Party intending to refer a dispute to him** **[ICE-SA is a joint Division of the South African Institution of Civil Engineering and the Institution of Civil Engineers (London) (see www.ice-sa.org.za) or its successor body]**
W1.2(3)	The *Adjudicator nominating body* is:	**The Chairman of ICE-SA a joint Division of the South African Institution of Civil Engineering and the Institution of Civil Engineers (London) (see www.ice-sa.org.za) or its successor body**
W1.4(2)	The *tribunal* is:	**arbitration**
W1.4(5)	The *arbitration procedure* is	**The latest edition of Rules for the Conduct of Arbitrations published by The Association of Arbitrators (Southern Africa) or its successor body**
	The place where arbitration is to be held is	**Johannesburg, South Africa**
	The person or organization who will choose an arbitrator	**The Chairman for the time being or his nominee of the Association of Arbitrators (Southern Africa) or its successor body**
12	**Data for secondary Option**	
X1	**Price Adjustment for inflation**	**The index referred to in this clause shall be deemed to refer to the CPI index on the *starting date*. Price adjustment for inflation shall only take place on contract anniversary**
X2	**Changes in the law**	**No data is required for this secondary Option**
X5	**Sectional Completion**	**Completion of installation, commissioning and handover of each elevator.**
X7	**Delay Damages**	
	Delay damages for Completion of each section of the *works* are	**Amount per day is 0.05% of the Sub Total J up to the maximum of 10% of the Sub Total J**
	Delay damages for Completion of the whole of the *works* are	**Amount per day is 0.05% of the Sub Total J up to the maximum of 10% of the Sub Total J**

X13	**Performance bond**	
X13.1	The amount of the performance bond is	**5% of Sub Total J in the Pricing Schedule.**
X16	**Retention**	
X16.1	The *retention percentage* is	**5% of each invoice of the CAPEX – Replacement of 14 Elevators BOQ**
X17	**Low service damages**	**As per the Service Information (C3) – Annex G**
X17.1	The *service level table* is in	**The Service Information, Annex G**
X18	**Limitation of liability**	
X18.1	The *Contractor*'s liability to the *Employer* for indirect or consequential loss is limited to	**Nil - Neither Party is liable to the other for any consequential or indirect loss, including but not limited to loss of profit, loss of income or loss of revenue**
X18.2	For any one event, the *Contractor*'s liability to the *Employer* for loss of or damage to the *Employer*'s property is limited to	**The total of the Prices**
X18.3	The *Contractor*'s liability for Defects due to his design of an item of Equipment is limited to	**The total of the Prices**
X18.4	The *Contractor*'s total liability to the *Employer*, for all matters arising under or in connection with this contract, other than the excluded matters, is limited to	**The 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 Prices 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**
X18.5	The *end of liability date* is	**52 weeks after the end of the service period.**
X19	**Task Order**	
X19.5	The *Contractor* submits a Task Order programme to the *Service Manager* within	**5 days of receiving the Task Order**

X20	**Key Performance Indicators**
X20.2	A report of performance against each Key Performance Indicator is provided at intervals of **month**

Z	**The *additional conditions of contract* are**

AMENDMENTS TO THE CORE CLAUSES

Z1 **Interpretation of the law**

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

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

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

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

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

Z3.2 The *Contractor* shall be responsible for the correct setting out or carrying out of the *service* in accordance with the original points, lines and levels stated in the *Service* Information or notified by the *Service Manager.* Any errors in the setting or carrying out of the *service* shall be rectified by the *Contractor* at the *Contractor's* own costs.

Z4. **Termination**

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

Z4.2 **Add the following to core clause 91.8,** The *Employer* may terminate the Contract in the event that the *Contractor* is unable to maintain an average availability of 91% for a continuous period of twenty-four (24) weeks as measured by ACSA IMCS system (R22).

Z4.3 **Add the following to the Termination Table:** If the Employer terminates in terms of this clause 91.8, the procedures on termination are P1, P3 and P4 as stated in clause 92, and the amount due is A1 and A2 as stated in clause 93.

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

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

- Firstly, the Contract Data (C1.2) and Conditions of Contract;
- Secondly the Pricing data;
- Thirdly, the Service information (C3) and Annexes thereto shall prevail;
- Fourthly, the additional conditions of contract under these Z clauses
- Lastly any schedules, drawings and other documents included with this agreement.

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

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

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

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

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

AMENDMENTS TO THE SECONDARY OPTION CLAUSES

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

Z7.1 A change in law is defined as:

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

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

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

Z8.1 **Amend the first sentence of clause X13.1 to read as follows:** The *Contractor* gives the *Employer* an unconditional, on-demand performance bond, provided by a bank or insurer which the *Service Manager* has accepted in his or her discretion, for the amount stated in the Contract Data and in the form set out in Section C1.4 of this Contract Data.

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

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

Z9.1 The *Employer's* liability to the *Contractor* for the *Contractor's* indirect or consequential loss or damage of any kind is limited to R0.00.

Z9.2 Notwithstanding any other clause in this contract, any proceeds received from any insurance or any proceeds which would have been received from any insurances but for the conduct of the *Contractor* shall be excluded from the calculation of the limitations of liability listed in the contract.

ADDITIONAL Z CLAUSES

Z10 **Cession, delegation and assignment**

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

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

Z11 **Joint and several liability**

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

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

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

Z12. **Ethics**

Z12.1 The *Contractor* undertakes:

Z12.1.2 not to give any offer, payment, consideration, or benefit of any kind, which constitutes or could be construed as an illegal or corrupt practice, either directly or indirectly, as an inducement or reward for the award or in execution of this contract;

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

Z12.2 The *Contractor*'s breach of this clause constitutes grounds for terminating the *Contractor*'s obligation to Provide the Service in accordance with the procedures stated P2, P3 or P4 in core

clause 92.2 or taking any other action as appropriate against the *Contractor* (including civil or criminal action). However, lawful inducements and rewards shall not constitute grounds for termination.

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

Z13 Confidentiality

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

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

Z13.3 This undertaking shall not apply to –

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

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

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

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

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

Z14 *Employer*'s Step-in rights

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

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

Z15 Liens and Encumbrances

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

Z16 Intellectual Property

Z16.1 Intellectual Property ("IP") rights means all rights in and to any patent, design, copyright, trade mark, trade name, trade secret, other intellectual or industrial property rights, technical information and concepts, know-how, specifications, data, formulae, computer programs, memoranda, scripts, reports, manuals, diagrams, drawings, prototypes, drafts and any rights to them created during the performance of the service and include applications for and rights to obtain or use any such intellectual property whether under South African or foreign law.

Z16.2 IP rights remain vested in the originator and shall not be used for any reason whatsoever other than carrying out the *service.*

Z16.3 The *Contractor* gives the *Employer* an irrevocable, transferrable, non-exclusive, royalty free licence to use and copy all IP related to the *service* for the purposes of constructing, repairing, demolishing, operating and maintaining the *service* or *the Affected Property*.

Z16.4 The written approval of the *Contractor* is to be obtained before the *Contractor*'s IP made available to any third party which approval will not be unreasonably withheld or delayed. Prior to making any *Contractor*'s IP available to any third party the *Employer* shall obtain a written confidentiality undertaking from any such third party on terms no less onerous than the terms the *Employer* would use to protect its IP.

Z16.5 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:

Z16.5.1 the *Contractor's service*;

Z16.5.2 the use of the *Contractor's* Equipment, or

Z16.5.3 the proper use of the *Affected Property* on which the service is provided.

Z16.6 The *Employer* shall, at the request and cost of the *Contractor*, assist in contesting the claim and the *Contractor* may (at its cost) conduct negotiations for the settlement of the claim, and any litigation or arbitration which may arise from it.

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

Z17.1 **Under clause W1.3, in the fourth row of the first column of the adjudication table, the following words are added after the words "any other matter":** "excluding disputes relating

to termination of the contract".

Z17.2 **The following clauses are added at the end of clause W1.3 as sub-clauses (12) and (13) respectively:**

Z17.2.1 "The Adjudicator shall decide the dispute solely on the written submissions of the parties. No oral submissions shall be heard during adjudication."

Z17.2.2 "Disputes relating to or arising from termination of the Contract shall not be determined by an adjudicator. Any such dispute shall be referred directly to the tribunal in accordance with the procedures set out in clause W1.4."

Z18 **Day:**

Z18.1 Any reference to a day in terms of this contract shall be construed as a calendar day.

Z19 **Safety:**

Z19.1 The *Employer*, *Service Manager* or any of his nominated representatives may stop any unsafe *service*. The *Contractor* does not proceed with the relevant service until the safety violation is corrected. This instruction to stop or not to start the *service* is not a compensation event.

Z19.2 As stipulated by section 37(2) of the Occupational Health and Safety Act No. 85 of 1993 (**OHS Act)** as amended the Contractor agrees to the following:

Z19.2.1 As part of the contract, the *Contractor* acknowledges that it is an *Employer* in its own right with duties as prescribed in the OHS Act, as amended and agrees to ensure that all work performed, or equipment and materials used, are in accordance with the provisions of the OHS Act.

Z19.2.2 The *Contractor* furthermore agrees to comply with the requirements set forth by the *Service Manager* and agree to liaise with the *Employer* should the *Contractor*, for whatever reason, be unable to perform in terms of the clause Z18.

Z19.3 The *Contractor* acknowledges that it is an *Employer* in its own right and is registered with duties as prescribed in the Compensation for Occupational Injuries & Diseases Act No. 130 of 1993.

C1.2 b - DATA PROVIDED BY THE *CONTRACTOR*

Clause	Statement	Data
10.1	The Contractor is (Name):	
	Company Registration Number	
	Company VAT Number	
	Address	
	Telephone no.	
	Fax No.	
11.2	The *working areas* are	See C3 'Service Information'
11.2(8)	**The direct fee percentage is:**	**……10%**
	The subcontracted fee percentage is:	**……10%**
24.1	The *Contractor's Key people* are:	**CV's to be appended to Resource Proposal (Annex F)**
1	**SITE MANAGER/SUPERVISOR**	
	Name:	
	Qualifications relevant to this contract	
	Experience	

2	**Technician (Lift mechanic)**	
	Name:	
	Qualifications relevant to this contract	
	Experience	
3	**Assistant Technician**	
	Name:	
	Qualifications relevant to this contract	
	Experience	
4	**Mechanical Engineer**	
	Name:	
	Qualifications relevant to this contract	
	Experience	
5	**Control Engineer**	
	Name:	
	Qualifications relevant to this contract	

	Experience	

6	**Storeman**	
	Name:	
	Qualifications relevant to this contract	
	Experience	

7	**Others**	
	Name:	
	Qualifications relevant to this contract	
	Experience	

11.2	The following matters will be included in the Risk Register	1. 2. 3. 4. 5. 6.

C1.3 Occupational Health and Safety Agreement

OCCUPATIONAL HEALTH AND SAFETY AGREEMENT

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) in order 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:

Name of Organization: **AIRPORTS COMPANY SOUTH AFRICA** **O R Tambo INTERNATIONAL AIRPORT**
Physical Address: **Airport Company South Africa** **OR Tambo International Airport** **ACSA Building, 4th Floor**

Hereinafter referred to as "Client"

Name of organisation:
Physical Address:

Hereinafter referred to as "the Mandatary/ Principal Contractor"

MANDATORY'S MAIN SCOPE OF WORK

_____

_____

_____

_____

GENERAL INFORMATION FORMING PART OF THIS AGREEMENT

1. The Occupational Health & Safety Act comprises of SECTION 1-50 and all unrepealed 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 utilise 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 according to 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.

   a. Public Liability Insurance Cover as required by the Subcontract Agreement.

   b. 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 at all times comply with the following conditions:

1. 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 OHSAct 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.

9. 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 OHSAct shall be reported by the Mandatary to the Provincial Director: Department of Labour as well as to the Client.

11. No use shall be made by the Mandatary and/or their employees and or their sub Contractors 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 duly 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.

5. 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 Health & Safety Act 85 of 1993 and section 5.1(k) of the Construction Regulations 2014,

I ……a duly authorised 16.2 Appointee acting for and on behalf of ……(company name) undertake to ensure that the requirements and the provision of the OHS Act 85 of 1993 and its regulations are complied with.

Mandatary – WCA/ Federated Employers Mutual No…….

Expiry date …….

_____ _____

SIGNATURE ON BEHALF OF MANDATARY **DATE**
(Warrant his authority to sign)

_____ _____

SIGNATURE ON BEHALF OF THE CLIENT **DATE**
AIRPORT COMPANY SOUTH AFRICA

C1.4 Forms of Securities

Yes performance bond or parent company guarantee is required in this contract

Pro forma Performance Bond – Demand Guarantee (for use with Option X13) *(to be reproduced exactly as shown below on the letterhead of the Bank providing the Bond / Guarantee)*

Airports Company South Africa SOC Limited
Reg. No 1993/004149/30 VAT no 4930138393
O R Tambo International Airport
Private Bag X1
3rd Floor ACSA North Wing Offices
OR Tambo International Airport
1627

Bank reference No.

Date:

Dear Sirs,

Performance Bond – Demand Guarantee for [insert name of Contractor] required in terms of contract [insert Contractor's contract reference number or title]

1. In this Guarantee the following words and expressions shall have the following meanings:-

1.1	"Bank" means	[Insert name of Bank], [●] Branch, Registration No. [●]
1.2	"Bank's Address" means	[Insert physical address of Bank]
1.3	"Contract" means	the written agreement relating to the Service, entered into between the Employer and the Contractor on or about the [●] day of [●] 20[●] (Contract Reference No. [●]) as amended, varied, restated, novated or substituted from time to time;
1.4	"Contractor" means	[●] a company registered in accordance with the laws of [●] under Registration No [●].
1.5	"Employer" means	Airports Company South Africa SOC Limited, a company registered in accordance with the laws of the Republic of South Africa under Registration Number 1993/004149/30
1.6	"Expiry Date" means	the earlier of • the date that the Bank receives a notice from the Employer stating that all amounts due from the Contractor as certified in terms of the contract have been received by the Employer and that the Contractor has fulfilled all his obligations under the Contract, or • the date that the Bank issues a replacement Bond for such lesser or higher amount as may be required by the Employer.
1.7	"Guaranteed Sum" means	5% of the sum of Subtotal J, ([●] Rand)
1.8	"Service" means	Maintenance of Elevators set out in the Section C3, Works Information

2. At the instance of the Contractor, we the undersigned _____ and _____, in our respective capacities as _____ and _____ of the Bank, and duly authorized thereto, confirm that we hold the Guaranteed Sum at the disposal of the Employer as security for the proper performance by the Contractor of all of its obligations in terms of and arising from the Contract and hereby undertake to pay to the Employer, on written demand from the Employer received prior to the Expiry Date, any sum or sums not exceeding in total the Guaranteed Sum.

3. A demand for payment under this guarantee shall be made in writing at the Bank's address and shall:

   - be signed on behalf of the Employer by a director of the Employer;
   - state the amount claimed ("the Demand Amount');
   - state that the Demand Amount is payable to the Employer in the circumstances contemplated in the Contract.

4. Notwithstanding the reference herein to the Contract the liability of the Bank in terms hereof is as principal and not as surety and the Bank's obligation/s to make payment:

   - is and shall be absolute provided demand is made in terms of this bond in all circumstances; and
   - is not, and shall not be construed to be, accessory or collateral on any basis whatsoever.

5. The Bank's obligations in terms of this Guarantee:

   - shall be restricted to the payment of money only and shall be limited to the maximum of the Guaranteed Sum; and
   - shall not be discharged and compliance with any demand for payment received by the Bank in terms hereof shall not be delayed, by the fact that a dispute may exist between the Employer and the Contractor.

6. The Employer shall be entitled to arrange its affairs with the Contractor in any manner which it sees fit, without advising us and without affecting our liability under this Guarantee. This includes, without limitation, any extensions, indulgences, release or compromise granted to the Contractor or any variation under or to the Contract.

7. Should the Employer cede its rights against the Contractor to a third party where such cession is permitted under the Contract, then the Employer shall be entitled to cede to such third party the rights of the Employer under this Guarantee on written notification to the Bank of such cession.

8. This Guarantee:

   - shall expire on the Expiry Date until which time it is irrevocable;
   - is, save as provided for in 7 above, personal to the Employer and is neither negotiable nor transferable;
   - shall be returned to the Bank upon the earlier of payment of the full Guaranteed Sum or expiry hereof;
   - shall be regarded as a liquid document for the purpose of obtaining a court order; and
   - shall be governed by and construed in accordance with the law of the Republic of South Africa and shall be subject to the jurisdiction of the Courts of the Republic of South Africa.
   - will be invalid and unenforceable if any claim which arises or demand for payment is received after the Expiry Date.

9. The Bank chooses domicilium citandi et executandi for all purposes in connection with this Guarantee at the Bank's Address.

Signed at ---------- on this ..... day of ..... 20__

For and on behalf of the Bank

Bank Signatories(s)		
Name(s) (printed)		
Witness(s)		
Bank's seal or stamp		

C1.5 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."

C2.1 Pricing assumptions: Option A

The *conditions of contract*

How work is priced and assessed for payment

Clause 11 in NEC3 Term Service Contract, April 2013 (TSC3) core clauses and Option A states:

Identified and defined terms	11 11.2	(12) The Price List is the *price list* unless later changed in accordance with this contract. (17) The Price for Services Provided to Date is the total of the Price for each lump sum item in the Price List which the *Contractor* has completed and where a quantity is stated for an item in the Price List, an amount calculated by multiplying the quantity which the *Contractor* has completed by the rate. (19) The Prices are the amounts stated in the Price column of the Price List. Where a quantity is stated for an item in the Price List, the Price is calculated by multiplying the quantity by the rate.

This confirms that Option A is a priced contract where the Prices are derived from a list of items of service which can be priced as lump sums or as expected quantities of service multiplied by a rate or a mix of both. Where it is contemplated that the Price List represents the type of work, quantity and cost thereof which may or not be selected by the Employer, it is important to ensure that service items listed do not create liability on a daily basis if that is not the intention. For example, if the service is maintenance of an installation on an ad hoc or call-off basis which may require the Contractor to be on standby but not permanently on the Affected Property, avoid listing service items which may be treated as preliminary and general (P&Gs) items, whether fixed or time-related such as contractual requirements, establishing on site, offices, storage, ablutions, water supplies, power supply, telecommunications. The Price List should align with the intention of the contract and selection of Option X 19 should be considered. If the Contractor is required to price P&G items ensure that the tender, contract and Price List provides clearly that daily charges are applicable only as necessitated by the specific activity and authorised by the Service Manager. Particular care should be taken when utilising SANS 1200 as a guide for tenderers or for preparing templates for Price Lists in tenders. Avoid referring to the Price List as the Activity Schedule.

Function of the Price List

Clause 54.1 in Option A states: “Information in the Price List is not Service Information”. This confirms that instructions to do work or how it is to be done are not included in the Price List but in the Service Information. This is further confirmed by Clause 20.1 which states, “The *Contractor* Provides the Service in accordance with the Service Information”. Hence the *Contractor* does **not** Provide the Service in accordance with the Price List. The Price List is only a pricing document.

Link to the *Contractor*’s plan

Clause 21.4 states “The *Contractor* provides information which shows how each item description on the Price List relates to the operations on each plan which he submits for acceptance”. Hence when compiling the *price*

list, the tendering Contractor needs to develop his first clause 21.2 plan in such a way that operations shown on it can be priced in the *price list* and result in a satisfactory cash flow in terms of clause 11.2(17).

Preparing the *price list*

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

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

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

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

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

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

Format of the *price list*

(From page 76 of the TSC3 Guidance Notes)

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

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

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

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

C2.2 Price List

The following Activity Schedule is provided "as-is" for the benefit of the Contractor. ACSA (the Employer) cannot guarantee that it is complete in all respects. The Contractor 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.

ACSA reserves the right to vary all the activities according to the rates given in this contract.

Part 1 - Activity Schedule

Part 1a – Preliminaries and General- (All Item mandatory)

Item no.	Activity Description	Total (per year)
1	Airport personnel access permits, vehicle airside access permits – *provisional sum*	R 5000.00
2	Parking fees – *provisional sum*	R 5000.00
3	Once-off decals to be affixed on each elevator (total elevators=117) showing, name, address and Telephone number of the maintenance service provider	R
4	Other (*please define*):	R
Preliminaries and General Sub-Total A (per year)		**R**

Part 1b – Activity Schedule-(All Item Mandatory)

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 etc.).	Monthly	12	R	R
2	Insurance (Other, excluding ACSA required insurance)	Monthly	12	R	R
3	All required labour for quarterly preventative maintenance and inspections	Quarterly	4	R	R
4	All required labour for preventative maintenance and inspections	Monthly	12	R	R
Preventative Maintenance Sub-Total B (per year)					**R**

NB: All labour required will not be charged extra.

Part 1 is inclusive of splice, replacement of handrail, replacement of motor and gearbox and etc

The above activity schedule is minimum work required and the Contractor as the subject expect matter on these services they are bidding for **shall fill in any other activity with prices for "other" activities which they deem necessary to achieve the set out comes on availability, reliability, maintainability, MTTR, MTBF, legislative and all other targets set in this contract. **Should an alternative not be presented, the offer will be deemed as the Contractor's optimal proposal for which they will be liable for.***

**All rates for all activities including diagnostic and repair shall include all required tools, software, hardware and consumables (including all applicable specialized tools and software, hardware and consumables) Onus is on the Contractor to price correctly).

***It is noted that the required labour resources and skills for this contract is not prescribed in detail. The Contractor is fully responsible to ensure that labour resources remain adequate and competent in order to maintain required service levels, system performance

levels and according to all applicable laws and regulations. The Tenderer shall also ensure that all required maintenance is catered for as per the Original Equipment Manufacturer in the pricing above.
****Low service damages will be applicable as per the Low **service damages table in this contract**

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:

Activity Schedule – part 2 (Labour rates and Mark-up - Breakdowns)

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

*All rates to exclude vat. Subject to mutual 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.

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

i) **LABOUR RATES:** ***(to be filled in)***

Item	Description	Normal hours(R/hour)	After hours (R/hou	
			Saturday	Sunday/public holiday
1	Mechanical Engineer			
2	Control Engineer			
3	Site Supervisor			
4	Lift Inspector			
5	Lift Mechanic			
6	Competent operator (Operative/Assistant)			
7	Storeman			
8	Other			

Detail requirements regarding staff
The Contractor shall continuously ensure that all staff is suitable, able and competent for the duties required of them. Staff must have experience and applicable competencies as per OEM and all legislations in the

maintenance and/or installation of Elevators. The Contractor shall continuously ensure that all staff is knowledgeable on all equipment relating to the Elevators.

Note the following minimum below:

SITE MANAGER/TECHNICIAN

- Must be in a permanent employee of the company.
- The ability to prepare comprehensive reports, sign off all maintenance records and verify that the systems are safe and fit for use on monthly basis.
- Should have working experience in the maintenance and/or installation of Elevators or similar works.
- Have knowledge of relevant regulation or standard

TECHNICIAN /TECHNICIAN ASSISTANT

- Must be in a permanent employee of the company.
- Properly trained and competent in category of work that he is required to perform.
- Should have working experience in the maintenance and/or installation of Elevators or similar works.

Note the following minimum below as per standardised Mechanical resources per infrastructure:

Description of Key Resources	Minimum Qualifications/Registrations of Key resources	Experience of key resources
Lift Mechanic	• Completed Apprenticeship in the trade of Lift Mechanic and • Electrical or Mechanical Trade test; or • Electrical/Mechanical N5	• Min 3 years experience post qualification in Maintenance or Installation of Lifts/Escalators/Passenger conveyors
Site Supervisor	•Completed Apprenticeship in the trade of Lift Mechanic • Electrical or Mechanical Trade test; or • Electrical/Mechanical N5 and • Any Occupational Health and Safety Training Certificate	• Min 3 years experience post qualification in Maintenance or Installation of Lifts/Escalators/Passenger conveyors and • Min 3 years supervisory experience and • Minimum 3 years experience of OHS
Competent operator (Operative/Assistant)	Mechanical or Electrical N3 And Safety Training Certificate	Min 1 year experience in maintenance of electrical or Mechanical Equipment • 1 Year experience on OHS
Storeman	Certificate In Storemanship Or, Stock and store control certificate; And MS office training certificate	Min 3 years experience post qualification in stock management and or store management
Lift Inspector (On an Adhoc Basis)	Registered with ECSA as a Lift Inspector	• Min 3-year experience post registration as a Lift Inspector

Mechanical Engineer	SAQA Accredited BTech Mechanical **AND** ECSA registered PRTECH (Mechanical)	5 years but less than 10 years' experience post-BENG/BSC/BTECH qualification, demonstrate assessment of structural integrity of steel structures experience.
Control Engineer	SAQA Accredited BTECH Electronics/Mechatronics **AND** ECSA registered PRTECH (Electronics/Mechatronics)	5 years but less than 10 years' experience post-BENG/BSC/BTECH qualification, demonstrate controls Integration experience on at least one Multidisciplinary project, demonstrate any experience in control and instrumentation project.

iii) SPARES and MARK -UP

***Spares** will be managed using ACSA's manual inventory management system.
The manual inventory management system will include but not limited to;

- Conducting and submission of monthly and quarterly stock count to the Service Manager by the Contractor,
- Keeping up-to-date inventory cards by the Contractor,
- Management of spares movement by the Contractor,
- Keeping an up-to-date inventory file (purchase order and request, work order, delivery note, stock count records, etc.).
- Ensure safety and security of the storeroom by the Contractor as per space given to them.
- The space for spare storage shall be allocated by ACSA to the Contractor and can be a shared space as per space availability.
- Management of inventory by the Contractor as per ACSA inventory procedure

Spares:

Description	**Total (excluding VAT)**
Subtotal C- provisional sum for spares	**3 000 000-00**

Mark-up (third party procured items/services)

Contractor to complete

Value of Item or Services	****Mark-up** ***(Contractor to fill in)***	**Spares amount for budget purposes *Z***	**Total mark-up values to be budgeted-** **(Contractor to fill in)** **= (*Z*x Y)**
R0 - R2,000	%	R2 000.00	
R2,001 - R5,000	%	R5 000.00	
R5,001 - R10,000	%	R10 000.00	
R10,001 +	%	R73 000.00	

Sub-total D (Third party Mark-up) (Note: Should be part of the form of offer and acceptance)	R

[b]Cost shall be net cost (excluding VAT) of parts delivered to site with all discounts deducted.

**The inserted amount *Z* are for budgeting purposes. The Total mark -up amount in the table is not guaranteed, but the mark-up will be applicable on third party quotations as per requirements of the system. Thus, the Contractor will be held accountable to the mark-up filled in this table.*
***The mark-up will be applicable to the total of the third-party quotation not on a single line items in a quotation*.

Spares and sub – Contractors work will be charged at cost plus mark-up. VAT shall not form part of mark-up calculations. Cost shall be net cost (excluding VAT) of parts supplied to site with all discounts deducted.

The spares list must be prepared based on tenderers best current spares prices (excl. VAT). The actual costs of spares will be reimbursed on submission of invoices and suppliers supporting documents.

Contract value
Below, 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. Monthly contract expenditure will be strictly calculated according to the Activity Schedule as provided above.

Year 1 Maintenance Expenditure

Description	Total (excluding VAT)
Sub-total A (Total Preliminary & General)	R
Sub-total B (*All Preventative Maintenance Labour)	R
Sub-total C (Spares provisional sum)	R3 000 000
Sub-total D (Third party Mark-up)	R
***Sub Total E- Total maintenance cost for <u>12 months</u>**	**R**

CAPEX – Replacement of 14 Elevators BOQ:

Item No	Description	Unit Price	Quantity	Subtotal Price [Excl. VAT]
Professional Services (Contractor to break down amount according to FIPDM Stages)				
1	Stage 1 Report - Mechanical Engineer		1	
2	Stage 2 Report - Mechanical Engineer		1	
4	Stage 3 Report - Mechanical Engineer		1	
5	Stage 4 Report - Mechanical Engineer		1	
4	Stage 5 Report - Mechanical Engineer		1	
5	Stage 6 Report - Mechanical Engineer		1	
6	Stage 1 Report - Control Engineer		1	
7	Stage 2 Report - Control Engineer		1	
8	Stage 3 Report - Control Engineer		1	
9	Stage 4 Report - Control Engineer		1	
10	Stage 5 Report - Control Engineer		1	
11	Stage 6 Report - Control Engineer		1	
12	Structural integrity test certificates for the Trusses according to test methods which the engineer deems fit		14	
Ps and Gs				
13	Site Establishment		1	
14	Site De-establishment		1	
15	All Monthly Ps and Gs for provision of anything else for completion of the Works		22	
Decommissioning of Elevators				
16	Removal old of Elevators		14	
Supplies				
17	Supply of complete Elevators (most current version 2019-upwards) and the latest design elements combined with colorful surfaces and lighting create an elegant, attractive appearance		14	

18	Electrical Supplies and Installation Works including COCs		Sum	
19	Control Supply and Installation Works		Sum	
20	Plant and equipment hire		Sum	
21	Supply and erect Hoarding that comply with ACSA standards		14	
22	Rigging work		14	
23	Data analytics hardware		14	
24	Data analytics software		sum	
	Installation Works			
25	All Installation works including rigging		14	
26	Performance and legal compliance testing, Supply All Legal documentation for Elevators [SANS 1543 Annex A and B]		14	
27	Data analytics installation and commissioning		14	
28	Commissioning		14	
	General			
29	Documentation handover		1	
30	Credit/ disposal for Scrapping/ Material recovery		-14	
	***Sub Total J: Estimated Contract Value (EXCL. VAT)**			

***This project will be executed in the financial year 2025**

Expenditure over Five (5)-year contract including CPI yearly price adjustments (As per Statistic SA)

Description	Total (excluding VAT)
Sub-Total E: year 1	**R**
Sub-Total F: year 2 (year 1 plus CPI escalation*)	**R**
Sub-Total G: year 3 (year 2 plus CPI escalation*)	**R**
Sub-Total H: year 4 (year 3 plus CPI escalation*)	**R**
Sub-Total I: year 5 (year 4 plus CPI escalation*)	**R**
Sub-Total J: (CAPEX –Replacement of 14 Elevators)	**R**
5-year estimated contract value Sub-Total K	**R**

*Contract values will be increased/decreased per the current index stipulated in Statistic SA – Consumer Price Indices - all income groups. **6% escalation should be used for illustrative purposes.**
Sub Total K (i.e. Total maintenance cost for the duration of the contract and replacement of 14 Elevators) must be carried to the form of offer and acceptance

The values in this table/contract are not guaranteed, payment will be done as per approved work/activity done and assessments in this contract.

C3 Service Information

DESCRIPTION OF THE WORKS

Employer's objectives

The objective is to provide service of Maintenance of Elevators at OR Tambo International Airport, Western Precinct and Cargo building in a sustainable manner at the lowest operating and maintenance costs while ensuring compliance to general safety and aviation related legislation. The Contractor will be appointed directly by the Airports Company of South Africa.

The Contractor will provide Maintenance of Elevators at O.R. Tambo International Airport, Western Precinct and Cargo building for a period of 5 years. The specifications and requirements in this document comprise the description of the Works. The Contractor will be appointed directly by the Airports Company of South Africa.

Onus is on the Contractor to provide assurance that competent persons would be carrying out all tasks in accordance to all the applicable standards, OEM requirements, procedures, regulations and legislative requirements.

The maintenance staff is required to be onsite around the clock (24 hours per day), 365 days per year, including public holidays.

Scope of work (OPEX)

The *Contractor* will provide maintenance Services for Elevator infrastructure which is located on the landside and airside of OR Tambo International Airport, Western Precinct and Cargo building. The specifications and requirements in this document comprise the description of the *Service (Annex I)*.

In brief, the Contractor will be responsible for the maintenance of 117 Elevators at O. R. Tambo International Airport., Western Precinct and Cargo building.

The works entails the following:

- **Servicing** - performing routine preventive maintenance as prescribed by the original equipment manufacturer (OEM) specifications and ACSA's planned maintenance activities routes.
- **Minor Repairs** – responding to breakdowns by maintenance personnel and restoring the equipment to a safe working condition.
- **Major Repairs** – responding to major breakdowns that require special skills and that cannot be executed by the maintenance personnel and restoring the equipment to a safe working condition.
- **Call outs** – attend to general call outs for fault finding and restore equipment into safe working conditions.

Scope of work (CAPEX)

Supply and installation of 14 elevators for various areas at OR Tambo International Airport. Over a period of 24 months of 5 years contract period.

Scope (CAPEX) -Replacement of 14 Elevators

- Supply and installation of 14 Elevators at OR Tambo International Airport. All the units must be tested and commissioned after installation.
- Furnish all engineering, materials, labour, tools, equipment, transportation, supervision, testing and inspections to install Three (3) Goods lifts, Eight (8) office passenger and Two (2) office passenger lifts, one firemans lifts as per specification supplied.
- This project is pursuing a Green Star certification and the Contractor is required to adhere to all clauses included in the Principal Contract and in the Green Star SA Requirements for Vertical Transportation Services. No incidental or additional cost related to Green Development shall be entertained after appointment.
- In all cases where a device or part of the equipment is herein referred to in the singular number, it is Intended that such reference shall apply to as many such devices as are required to complete the installation.
- Any items not specified in detail by the Contract/Specification, but which are incidental to or necessary for the complete installation and proper operation of the work described herein or reasonably implied shall be furnished as if called for in detail by the Contract/Specification.
- Report discrepancies or ambiguities occurring in the Contract/Specification prior to the submission of the bid proposal. Submission of the bid without clarification will reflect ac-acceptance of the Contract/Specification as written.
- Clearly state the unit model and full specification of the product offered as part of the bid proposal. Alternatives will be considered, only if a full justification is presented and in no circumstances will it affect the performance and quality of the installation.
- Clearly state all deviations of this specification, these deviations will be qualified at negotiation stage, and the Owner reserve the right to accept or decline.
- Mechanical Installations: must adhere to Annex Q Detail Technical Specification
- Acceptance of Price: The Employer and his representatives reserve the rights to the following•
    - Offer no guarantee that the lowest price will be recommended for acceptance or accepted
    - Price submission shall be judged on quality, price and deliver
- Conduct risk assessments and provide method statement.
- Supply and erect hoarding/barricading equipment. Hoarding /signage shall blend in with the aesthetic of the airport environment. Hoarding must be at least 2.5 m in height, fully enclosed, with lockable access.
- Assess structural integrity of the beams and provide test certificate by using the services of a qualified and registered professional structural engineer.
- Supply and install 14 Elevators equipment, latest version and components in accordance with the detailed technical specification and applicable standards.

- Works will include but not limited to all required mechanical, electrical and electronics works (e.g. upgrade of circuits and COC's).
- Supply and install power surge protection system to protect product.
- Integrate the 14 Elevators control systems into BMS, ACSA IMCS and remote fault notification system by using the services of a qualified controls and systems specialist.
- Provide a cloud-based data analytics platform with at least 4 levels of security namely privacy levels, Row level security, Office 365 sensitivity labels and workspace security that can be accessed via the Web and mobile devices. The data analytics platform selected must have been in existence for at least 5 years and commonly used across the world with sufficient technical support. The *Contractor* is to provide an initial 1-year licence subscription on behalf of the employer.
- Interface to the Elevator Control Hardware and or ACSA IMCS to import the following real time Elevator performance data into the data analytics platform:
    - Elevator Speed
    - Drive Motor current
    - Drive Motor Voltage
    - Usage in running hours
    - Total Energy consumption
    - Fault or error codes
    - Elevator drive train Vibration
    - Elevator Operation logs
    - Elevator Drive motor temperature
- Design reports and predictive model(s) to provide the following insights regarding the operation of the lifts:
    - Energy consumption, time of energy usage, time of high energy consumption and predict spikes in energy usage.
    - Elevator utilisation patterns categorising them in low usage, medium usage and high/peak usage including time slots and day(s) of such usage.
    - Prevalent (Top 5) error codes and classify these according to Type of error code, time of error code, day of error code and the Elevator operation preceding the error code. Eg is the error code observed when the Elevator travels upwards or downwards.
    - Predict the timing of lubrication or intrusive inspection of the drive train by monitoring and analysing the online vibration data.
- Predict the timing of drive motor winding insulation failure by monitoring and analysing the motor current and temperature data.
    - Predict the adjustment timing of drive motor inverter (ac) or voltage regulator (dc) settings or complete replacement thereof by monitoring and analysing Elevator speed.

- Predict Elevator stoppages by monitoring lift operations and an operation preceding the stoppage.
- Predict user dissatisfaction by monitoring and analysing time it takes from when user calls the lift reaches the floor destination. This is subject to access being provided timeously to Oracle by the *Employer.*

- The data analytics platform should also allow automatic emailing of reports and predictions to selected ACSA personnel and its nominated maintenance Contractors.
- Supply legal documentation for 14 Elevators in terms of Lifts, Elevators and Passenger Conveyors Regulations. These would include but not limited to Annexure A and B documents.
- Manage project in accordance with the project management principles and FIPDM (Framework for Infrastructure Delivery and Procurement Management) from National Treasury.
- Provide all documentation including but not limited to operation/ maintenance manuals in PDF, Equipment Data sheets in PDF, General Arrangement drawings (Soft copies in PDF and DWG Format), Warranty certificates, recommended OEM spare list, maintenance/operation training to current maintenance Contractor and training documents.
- The Replacement of Elevators must have a warranty period of 1 year, and the Contractors will be responsible for a fee free maintenance during the warranty period.

  N.B: 10 Year guarantees still applies.

NB: The equipment/components should be of the same standard, and spares should be interchangeable, compatible. There should be local spare availability and technical support.

STANDARDS AND REGULATIONS

All material, design, clearances, construction, workmanship, operation and tests shall be In accordance with the requirements of the most recent issues of the SANS 50081-20 and OHS Act.

PERMITS AND INSPECTIONS

- Contractor shall give all requisite notices, obtain and pay for all permits, and pay all deposits and fees necessary for the installation of all work provided under this Contract/Specification. In addition, Contractor shall obtain and pay for all necessary state and local inspections and conduct such tests as may be required by the regulations of such authorities. These tests shall be made in the presence of the authorised representative of such authorities and in the presence of Owner. An elevator installation permit shall be displayed on the job site and visible to interested parties.
- On behalf of the Client, the supplier will apply for all the necessary documentation of the elevator (Annexure 1, A and B).
- The installation, when complete, shall receive the final approval of all constituted authorities and Contractor shall submit evidence of the inspection results and the Certificate of Operation from the constituted authority.

SHOP DRAWINGS/SUBMITTALS AS BUILT DRAWINGS

Job specific shop drawings and technical coordination information shall be submitted for review prior to commencing with fabrication of the equipment. The first shop drawing submittal shall be complete. Partial shop drawings will not be reviewed until they are complete. Delay in the project as a result of partial submittals shall be the responsibility of the Contractor. Shop drawing submission shall include, but not be limited to, the following:

a. Hoistway and machine room layouts.

b. Hoistway entrance, sill, header, and door equipment layout, if required.

c. Elevator cab layout.

d. Signal operating fixture details.

e. Structural calculations for new machinery and equipment as required by code.

Upon completion of the project, Contractor shall submit the following:

- One (1) set of diagnostic tools, including all manuals, codes and sundries necessary to operate the tools to test and maintain the elevator equipment provided. The tool shall become the property of Owner.
- Two (2) sets of owner's manuals as per the following (two hard copies and one CD):
- Complete certified engineering data, including parts lists and parts numbers on all equipment as will be necessary for maintaining the equipment and for ordering replacements. Certified engineering data shall be permanently bound.
- One (1) original complete and legible set of wiring diagrams (in protective sheeting) and straightline diagrams showing the complete electrical connections, functions and sequence of operation of all apparatus connected with the elevator, including door operator, both in the machine room and in the hoistway. Each device on the wiring diagrams and controller panels shall be properly and permanently identified by name and part number.
- Original reproducible complete sets of As-Built shop drawings, including layouts and signal operating fixture details.

- A set of neatly bound instructions manuals explaining all operating features including apparatus in the car and lobby control panelst control sequence of operation, adjusting and troubleshooting procedures.
- Set of lubrication charts indicating lubrication points and type of lubrication recommended for all equipment. A set shall be bound and permanently maintained in the elevator machine room.
- Copy of Annexure I's, Annexure A's and Annexure B's.
- Three (3) sets of keys to operate all key operated functions all marked and identified.

MATERIALS & EQUIPMENT

All materials and equipment to be furnished under this Contract/Specification shall be new, of the best grade and quality used for the purpose of commercial practice and shall be the latest standard product as advertised in printed catalogues by reputable manufacturers. All equipment or apparatus of any one system must be the product of one manufacturer, or equivalent products of a number of manufacturers which are suitable for use in a unified or assembled system. All parts of the elevator equipment shall be built to standard dimensions, tolerances and clearances in order to ensure complete interchange ability of similar parts of similar machines and devices.

HOISTING HANDLING AND INSTALLATION OF EQUIPMENT

- Contractor shall provide for all cartage, handling and receiving, hoisting and lowering and removal of equipment related to the work, from the property. Contractor shall be responsible for all permits, fees and coordination with local authorities, including local police and fire departments, for use of crane service on and around the property.
- The equipment shall be installed in accordance with the equipment manufacturer's direction, referenced codes and Contract/Specifications.
- The machine room equipment shall be installed with clearances complying with referenced and applicable codes and Contract/Specifications.
- All items shall be Installed so that they are safely accessible for maintenance and so that they may be removable via portable hoist or other means for maintenance and repair.
- All fixtures into the building structure to support guide brackets, hanger cases, sills, pit buffers, cleats etc shall be with the use of anchors into concrete construction and chemical anchors into brick construction.
- All fixtures into a steelwork shaft structure shall be with the use of bolts, flat washers (if necessary) and spring washers.

ACCEPTANCE OF EQUIPMENT

No approval, either written or verbal, of any drawings, descriptive data or samples of such material, equipment and/or appurtenances shall relieve Contractor of his responsibility to turn over the same to Owner in perfect working order at the completion of the work. Any material, equipment, or appurtenances, the operation, capacity or performance of which does not comply with the Contract/Specification requirements, or which is damaged prior to acceptance by Owner, shall be held to be defective material and shall be removed and replaced with proper and acceptable materials, equipment and/or appurtenances, or put in proper and acceptable working order, satisfactory to Owner, without additional cost to Owner.

SPECIAL TOOLS AND INSTRUCTIONS FOR USE

- Contractor shall provide all required specialised tools, instructions for their use and sundries as necessary to perform diagnostic evaluations, adjustments or programmable software changes on any unit of the microprocessor based elevator control equipment provided. Diagnostic tools shall become the property of Owner.
- Diagnostic tools which require periodic recalibration and/or re-initiation shall be performed by Contractor at no cost to Owner for a period of ten (10) years from the date of final acceptance of the equipment, regardless of whether Contractor IS or is not the maintenance Contractor for the equipment.
- Should a diagnostic tool be required to be repaired, recalibrated or reinitiated, Contractor shall provide a similar "loaner" tool to Owner, until the original Owner's tool is returned.
- Diagnostic tools provided to Owner shall be capable of performing all levels of diagnostics, systems adjustments and software program changes that are available to Contractor.
- Contractor shall provide a set of printed instructions for use of any tool that may be necessary to perform diagnostic evaluations, systems adjustment and / or programmable software changes on any unit of the microprocessor-based elevator control equipment. Contractor shall provide access codes, passwords and other proprietary information that is necessary to interface with the microprocessor control equipment. In addition.
- Contractor shall provide step by step adjusting, programming and troubleshooting procedures as pertain to the microprocessor control equipment, a composite listing of the individual settings chosen for the variable software parameters stored on the software programs of both motion and dispatch controllers.

RELATED WORK INCLUDED AND PART OF THE ELEVATOR CONTRACT

- Contractor shall submit its proposal based on acceptance of the hoist ways and machine room as exists. Contractor shall notify Owner of any changes to the hoist ways and/or machine room, which are necessary to accommodate Contractor's equipment or to comply with Code prior to the submission of the bid for the elevator installations.
- Contractor shall assist Owner with coordination and completion of the work to be performed which is part of the Elevator Contract, as required, during the course of the project to assure that all work required of other trades is completed in such a manner and in such time as will be required to permit Contractor to commence and complete the Contract work within the project schedule requirements. This is to include shaft access, attendance, and assistance for other trades to complete associated works such as reticulation and terminations for BMS, Access Control and Fire detection systems.
- The Client will supply per lift, a distribution board including an isolator rated as per the lift Contractors rating specification and a single phase 220 VAC earth leakage.

The following will be supplied by the lift Contractor:

- 220 volts lockable disconnects for cab lighting, cab socket outlet and pit socket outlets per elevator
- 220 volts lockable disconnects for pit and shaft lighting
- Complete set of pit and shaft lights and pit socket outlet as per SANS 50081-20
- In each elevator pit install a pit ladder as per the requirements of SANS 50081-20

- Furnish and install an intercom system per lift in compliance as per SANS 50081-20
- Multiple lift shafts to provide a dividing screen as per the requirements of SANS 50081-20
- Working platform on top of the car
- IMPORTANT NOTE: All plug sockets to be provided as per the requirements of SANS 164-2.

MATERIAL AND EQUIPMENT DELIVERY, STORAGE

- All materials shall be delivered in the original unopened protective packaging and shall be stored in the protective packaging to prevent soiling, physical damage and wetting.
- Equipment and exposed finishes shall be protected during transportation, erection and construction against damage and stains.
- Contractor shall confine his apparatus and the storage of materials to limits established by law, ordinances, permits or directions of Owner and shall not unreasonably encumber the premises with his materials. All flammable or combustible materials shall be properly stored to eliminate potential fire hazards.

PROJECT MANAGEMENT AND SUPERVISION

Contractor shall designate an experienced Project Manager to perform the administrative management of the project and place a competent Superintendent in charge of the project throughout the course of the work. Contractor's on-site job Foreman shall be responsible for day-to-day operations and scheduling with Owner. The Project Manager and Superintendent shall be available to Owner to assist in the progress and coordination of the work of the project and shall represent Contractor in all matters relating to the project.

SAFETY PLAN

- Contractor shall submit a detailed safety plan for this project at time of shop drawing submittal. Safety Plan shall detail the type and construction of the barricades to be used at open hoistwayst rigging to be worn by Contractors, and first aid kit. The superintendent shall hold a safety meeting on site monthly.
- The Contractor hereby acknowledges that he is aware and able to comply with all requirements of the OHS Act.

EXECUTION

Contractor shall perform the following as part of the execution of the work of the Elevator replacement:

- Comply with all requirements of the local Fire Codes that are applicable to this work.
- Be sensitive to the needs and entitlements of the occupants of the building while performing the work.
- Confirm that the Contract/Specification and contract documents are complete with regard to the work required to provide for a complete, legal and Code compliant installation.
- Confirm that the elevator equipment to be provided will fit within the space available. Survey the job site and verify by measurement all dimensions affecting the work to be performed as part of the Contract, Advise Owner of any deficiencies which may be in conflict with design tolerances of the equipment to be installed, prior to fabrication of the equipment affected.

- Provide information as required for coordination of work to be performed by other trades which will affect scheduling of the elevator work and Information required for coordination in scheduling the elevator work which will affect the scheduling of other trade Contractor work.
- Permit only skilled workmen to perform the work of the Elevator replacement, unless for such works requiring cleaning, painting and material handling then semi-skilled labour shall be permitted.
- Install all equipment in accordance with the Elevator installation specification, the Specification and the final approved shop drawings.
- Comply with all applicable Codes, manufacturer's instructions and installation procedures.
- Keep all means of access and egress to and from the building, stairwells and lobbies free and clear of materials, tools and equipment at all times.
- Broom sweep the work areas, remove all hazardous materials from the site on a daily basis and keep all areas clean of all dirt and grease resulting from the work.
- Protect all finished surfaces during Installation through to the final acceptance of the elevators. Upon acceptance of the elevators, remove all protective coverings and thoroughly clean finished surfaces of paint, wrappings, mastic, etc. Repair any damage, including scratches, dents, discoloration, etc. which may have occurred to the finished surfaces with the exception of any obvious vandalism, misuse or abuse of the equipment by others.

TESTING

- Upon completion of each elevator and of each system, Contractor shall completely test the equipment, both before the local authority and Owner, to demonstrate that the equipment was provided in accordance with Code and Contract/Specification requirements and complies with the Performance criteria listed elsewhere in the Contract/Specification.
- Contractor shall provide all labour, tools and equipment necessary for on-site observations, testing, retesting, inspections and re-inspections as may be required to satisfy the Code testing requirements, the requirements of the local testing authority and the requirements of Owner.
- Upon satisfactory completion of required tests, Contractor shall obtain and submit to Owner the Certificate of Operation or other instrument, which may be required to legally permit Owner to operate the elevator.

FINAL CLEAN-UP

Upon completion of the project, Contractor shall clean out and remove all loose materials from the hoistway, pit and machine room; remove all crating and packing materials and all unused elevator equipment from the job site; clean the machine room floor of dirt, oil, grease and dust and paint the machine room floor, pit and car top to provide for the machine room pit and car top to be dust free at the time of the Final Acceptance of the elevator system.

INSTRUCTIONS TO OWNER

Contractor shall provide a minimum of four (4) hours of instructions to Owner's personnel upon completion of the elevator installation. Instructions shall include safety procedures, proper operation of all equipment and routine maintenance procedures. In addition, Contractor shall provide explanation and demonstration of each control feature and operation,

including Independent Service Operation, Emergency Recall Operation, Phase I and Emergency in Car Operation Phase II, Car to Lobby and Emergency Power Operation.

WARRANTY AND GUARANTEE

Contractor shall warrant and guarantee all equipment provided and installed under this Specification against defects in materials and workmanship and will correct any defects not due to ordinary wear and tear or improper use or care which may develop within one (1) year from the date the last elevator is completed, placed into operation and accepted by Owner. One year defect free period

MAINTENANCE SERVICE

Warranty Maintenance/Free Service: Once the elevator installation work has been completed and accepted as substantially complete by Owner and Elevator Consultant the Elevator Contactor shall provide warranty maintenance for 12 months, thereafter it will be at the discretion of the owner. The Warranty Maintenance shall be all-inclusive and not include any pro-rations or exclusions and shall provide comprehensive full coverage as outlined in a Service Level Agreement that will be entered into at the point of adjudication.

The preventive maintenance program service to be provided shall consist of once per month examinations of the equipment, adjustments, lubrication, cleaning, supplies and parts to keep the equipment in proper operation, except such adjustments, parts or repairs made necessary by abuse, misuse or any other causes beyond the control of Contractor. All wire ropes shall be replaced as often as necessary to maintain an adequate factor of safety. Full load safety tests and Code required testing of the elevators and elevator operation shall be included as part of the contract, as well as provisions for termination of the Maintenance Contract for non-performance.

CONTINUING SUPPORT

Should Contractor's contract for continuing maintenance services not be executed by Owner, or should it be cancelled for any reason by either Owner or Contractor, Contractor shall be obligated to notify Owner and to provide to Owner continuing information regarding changes recommended or necessary to be performed to the equipment to comply with Code changes or Manufacturer recommended and/or authorised changes or repairs, modifications, adjustments, replacements, etc., to permit for the continued integrity and safe/reliable operation of the equipment provided under the elevator installation contract and this Contract/Specification. In addition, Contractor shall provide field and technical assistance and instructions to Owner or Owner's elevator maintenance company, upon Owner's request, within a reasonable time following Owner's request, for which Contractor shall be compensated at Contractors direct cost plus a reasonable charge for profit and overhead for materials and labour. Labour charges shall not exceed Contractor's standard elevator mechanic hourly billing rates. Contractor shall also be obligated to perform any repairs and/or replacements of equipment components required by the component Manufacturer to be made to correct faulty design or manufacture.

ELEVATOR CONTROL SYSTEM (VVVF DRIVE)

- The controllers shall incorporate a Variable Voltage Variable Frequency, Regenerative Drive. (VWF Drive)
- A position reference system shall provide positive means of determining the position of the elevator in the hoistway at all times. Digital encoders shall be provided on the elevator or in the machine room. Analogue systems utilising perforated steel tapes are not permitted. The encoder unit mounted on the top of the car or on the governor shall be capable of providing a signal as to the position of the car in the hoistway. Floor location for levelling shall be determined

via magnetic strips affixed to the brackets or tapes to define the floor-levelling zone. The position reference system shall provide 3mm resolution accuracy for the entire length of the hoistway.

- A digital velocity transducer shall be mounted on the machine to communicate the machine speed to the individual car computer. Analogue systems utilising Tachometers are not permitted. The car computer shall continuously compare the machine speed to the optimum velocity pro-file and point of slowdown for the target floor and control the acceleration and retardation to final stop regardless of travel or load in the car. Adjustments to the pattern shall be performed to the elevator prior to committing the selected ride pattern to the car computer's memory. Data shall be stored in a nonvolatile memory In the system to prevent malevolent use and be accessible only to authorised technicians. The hoistway position reference system shall provide a visual display of the current shaft count or synchronous position plus a bar graph indication of the pattern profile/elevator speed. Means for adjusting the test speed, pattern precondition, soft start acceleration and deceleration shall be included in the car controller. Battery backup memory shall be provided to retain the current floor count in the event of a power shutdown. Nominal shaft counting errors shall be corrected each time the elevator stops at a floor or terminal landing to reset shaft counts.
- The control system shall be designed to automatically bring the car to a floor landing. The stop shall be smooth without any sudden brake application. The floor approach shall be without any hesitation or delay in time. Floor sensing devices shall correct for over-travel and under-travel and shall maintain the car within a maximum of 3mm of the floor line, regardless of rated capacity, load or direction of travel.
- The controllers shall be enclosed in properly ventilated metal cabinets with sides and top, and with hinged access doors on the front and the back. Rubber mats shall be installed on the floor in front and behind each controller, starting panel and selector, as required, for electrical grounding protection of the equipment.
- All controller printed circuit boards, discrete components, switches, and other items of control equipment shall be mounted on a common panel or individual panels which shall be made of an approved, moisture-resisting, non-combustible material which shall be securely mounted in a substantial, self-supporting steel frame with fastenings suitable for panel demounting. A vibration absorbing mounting shall be provided for the steel frame, if necessary, to eliminate perceptible vibration.
- Electro-mechanical switches and relays shall be used where heavy current is supplied and/or on safety circuits required by the governing Elevator Codes.
- All switches, printed circuit boards and discrete components shall be mounted in the front of panels together with any small electronic components.
- Large capacity resistors shall be mounted on the rear, sides or top of panels.
- Protective devices shall be provided to protect the Motor Drive Unit or VVVF Drive against overload and phase reversal.
- design that is reliable and consistent, such as electronic timing circuits. No air dash pot relays shall be used. Time delay circuits shall be of an accepted.
- Wiring on the controller, whether factory or field wiring, shall be done in neat workmanlike order and all connections shall be made to studs and/or terminals by means of grommets, solderless lugs or similar connections. All wiring shall be copper. All wiring and cable reticulation in the Scenic Lift shafts to be housed in a sturdy painted mild steel trunking, complete with solid cover. Location to be agreed with architect.

- Terminal blocks with identifying studs shall be provided on the controller for connection of board wiring or external wiring.
- Identifying symbols or letters shall be permanently marked on or adjacent to each device on the controller and the marking shall be identical to marking used on the wiring diagrams. In addition to the identifying marks, the ampere rating shall be marked adjacent to all fuse holders.
- All input-output devices shall be marked similarly to relays for easy reference to wiring diagrams.
- The selector shall be part of the microprocessor. Position determination in the hoistway may be through fixed tape in the hoistway or by an encoder fitted to the governor. The features and electrical circuits shall be so designed to permit accurate control and rapid acceleration and retardation without discomfort.
- Contractor shall confirm which floor are to be the main dispatch floor, the Fireman Recall floor and the Alternate Fireman Recall floor, prior to fabrication of the control equipment. The control shall be programmable to enable the dispatch and recall floors to be changed in the field.
- Contractor shall provide all electrical information necessary for review by Owner or Consultant at the time of submission of the elevator hoistway layout drawings.
- Owner and Elevator Consultant will judge ride quality of cars and enforce the following requirements. Contractor shall make all necessary adjustments:
- Acceleration and Deceleration: Starting and stopping shall be smooth and comfortable, without obvious steps of acceleration. Slowdown, stopping and levelling shall be without jars or bumps. Stopping upon operation of emergency stop switch shall be rapid but not violent.
- Vertical Acceleration: Maximum 1220 mm per second squared. Maximum jerk 2440 mm per second cubed.

Horizontal Acceleration: Maximum 10 mg peak-to-peak measured at full speed for full travel in both directions.

- Full Speed Riding, Free from vibration and sway.
- Vibration: Sound isolate machines and motor drives from beams and building structure to prevent objectionable noise and vibration transmission to occupied building spaces.
- Airborne Noise: Maximum allowed acoustical output level of:
- 75 dba measured in machine room.
- 60 dba measured in elevator cars during all sequences of operation.
- 45 dba measured in elevator lobbies.

MICROPROCESSOR DISPATCH OPERATION CONTROLLER

A solid-state programmable microprocessor dispatch controller shall be provided. The elevators shall operate without attendants as a group and be capable of balancing service and continuing operation with one or more cars removed from the system.

The microprocessor shall continuously accept external data from passenger registration of hall and car calls and from each elevator indicating present operating condition. Data shall be analysed and weighed based on elevator operating status, i e., elevator in or out of service, bypass, at lobby in Next Car mode, direction of travel and position of each elevator, condition of car doors, i.e., open, closed. opening or closing, condition of each elevator, i.e., accelerating, full speed, decelerating, number of stops due to car calls, number of stops due to previously as-signed hall calls, coincident car calls, system condition, i.e., Up Peak or Down Peak, and predictive car and hall call assignments. The microprocessor programming shall include velocity / distance formulae to calculate the time it will take for each elevator to respond to newly registered demands and compare response time for each car to the newly registered demand and as-sign the car which can respond to the demand in the shortest time period. The microprocessor program shall include the ability to continuously monitor elevator and demand status and change assignments when changing conditions warrant.

The elevators shall operate from buttons located at each floor and in each car. Registration of calls by momentary pressure on buttons shall cause the cars to respond to passenger demand. Cars shall slow down and stop automatically at landings corresponding to calls registered on car or hall buttons. These stops shall be made in the natural order of floors for each direction of travel irrespective of the order in which the calls were registered, except that only one car shall stop in response to any particular hall call. The system shall continuously review and modify all hall call assignments to ensure that the closest elevator in real time to a hall call is assigned to that call. Simultaneous to the initiation of the slowdown of a car for a hall call, that call shall be cancelled, The call shall remain cancelled and the hall button ineffective until the car doors begin to close after passenger traffic. Calls registered on car buttons shall cancel in the same manner.

The supervisory control system shall operate to meet the changing traffic conditions on the basis of demand. Provisions shall be included for handling traffic as follows:

Heavy Up Incoming Traffic Conditions: The control shall automatically recognise heavy incoming traffic in the morning and noon times as well as other times during the day by monitoring the changes in car passenger loads, the number of car calls registered and the frequency of cars departing the lobby. As the incoming traffic intensity increases, the number of cars assigned to the lobby shall increase.

During Heavy Up, cars shall be loaded one at a time and only the doors of the next car shall open. As that car becomes loaded, or the loading time expires, the car shall leave and an adjacent car shall become next. Multiple car loading provisions shall be incorporated into the system to permit multiple Next car assignments. If a car returns to the Lobby with a passenger, causing the doors of that car to open, that car shall be capable of receiving passengers and dispatching within the normal dispatching time as if it were the next car.

Car traveling Up on Heavy Up shall reverse and return to the dispatch floor after it has answered its car calls and any Up-hall calls assigned to it. Down hall calls shall be answered by any car on the return trip.
When the incoming traffic diminishes, the control shall reallocate cars from the dispatch floor and permit cars to park with their doors closed at the last floor served.

Heavy Down Traffic Conditions: The control shall automatically recognise heavy outgoing or Down traffic conditions by monitoring the number of Down hall calls, their estimated time of arrival and the actual waiting time. During this mode,

the Down hall calls shall be given preferential service to handle the exiting traffic. All cars assigned to the main dispatch floor shall be released and cars arriving at the main dispatch floor shall remain at that floor for the same length of time as for any other floor. All Down hall calls shall be assigned based on which car has the best potential arrival time. The Down Peak traffic mode shall have priority over Up peak.

- Selectable Hall Waiting Time, Down Peak: The Up-hall call response time shall be pre-set so that Up calls can be answered in an adjustable minimum/maximum time interval, permitting better service to the outgoing traffic. The assignments shall be made the same way as under Selectable Hall Waiting Time, up Peak, but for Up hall calls only.
- Intermittent or Light Traffic: The control shall automatically keep the required number of cars in service based on the forecast waiting time. Cars shall remain parked at the last floor served.
- Lobby Terminal Demand: The control shall provide for an adjustable number of cars at the dispatch C) floor during off peak conditions. When there is no next car at the dispatch floor, the estimated time of arrival of the down traveling cars is calculated. If no car can reach the dispatch floor within an adjustable time, a dispatch floor demand shall automatically re-turn an available car.
    - Coincident Calls: The control shall give priority in assignment of a hall call to a car with a corresponding car call. If this coincident hall call cannot be answered within the adjustable priority time, the car with the best potential arrival time shall be assigned to the hall call.
    - High Priority Floor: A priority floor shall be a floor which is to be served within a pre-set adjustable time. If the car with the best estimated time of arrival exceeds the pre-set time, the control shall assign the priority call to the best car, removing all halt call assignments from that car, taking into consideration only car call stops. The assignment of a floor as a High Priority floor shall be field adjustable.
    - Fail Safe Dispatching Operation: Should the car selection or dispatching system fail, so that cars are not dispatched within the predetermined interval and in accordance with the conditions of the operating pattern in effect, the cars shall leave the dispatching terminals with-out regard to sequence of regular intervals and proceed to answer registered calls in the normal sequence and manner, unless fire return features have been activated, until dis-patching malfunctions are corrected and normal service is restored. Optional power provisions shall be incorporated into the elevator control dispatch system to prevent loss of control memory, sequence of operation and/or other control functions due to fractional power interruptions, spikes or other interferences.
    - Delayed Car: A car delayed for a predetermined time shall be automatically disconnected from the system operation. When the delay is corrected, the car shall be reconnected into the system.
    - Door Dwell Times: Door dwell times shall be field adjustable with resolution to 0.1 seconds. The dwell time at the main dispatch floor shall be adjustable between 3 and 15 seconds. The dwell time for a car call stop at a typical floor shall be adjustable between 1 and 8 seconds and the dwell time for a hall call stop shall be adjustable between 1 and 8 seconds. The hall call timing shall predominate in the event of a coincidental car and hall call stop. Upon interruption of the car door detector beams, the door open time shall be reduced to an adjustable time of 0.5 to 3 seconds. The photo beam control door dwell time shall be separately adjustable for car and hall calls. Dispatch floor dwell time shall be cancelled when the system is on Down peak operation.

- Anti-Nuisance: In the event car loading or operation is not commensurate with the number of calls registered, all car calls shall be cancelled.
- Load Weighing Bypass: The elevators shall bypass hall calls when their respective load weighing devices are activated, the new load weighing devices shall weigh the live load in the cab and provide a signal to the elevator control system when the live load has reached a predetermined level. Initially, the load weighing devices shall be set at 50%.
- Nudging: In the event the doors are held open for a predetermined adjustable period of time, initially to be set at 20 seconds, after automatic door closing has been initiated, a buzzer shall sound and the doors shall be permitted to close at a reduced speed and in compliance with SANS 50081-20 Elevator Code.
- Security Feature: Interface the new elevator controls with the existing Car Call Lock-out Security Card Reader System. (see section 2.5)
- Note that all controller systems to have BMS output capability. The lift controllers must support at least one of the following protocols for BMS integration:

a. BACnet IP or
b. Modbus TCP

CONTROLLER DIAGNOSTICS

The controller shall include the ability to perform diagnostic analysis of the system capable of determining faults. When a fault occurs, the computer shall be able to provide a retrievable fault code message identifying the location of the elevator, the time of day of the occurrence, and the number of times the fault has occurred.

STATISTICAL DATA STORAGE AND RETRIEVAL

The controller shall be capable of storing and retrieving statistical data to permit analysis and evaluation of the operating system response to traffic demand. Information to be stored shall include statistics relating to average waiting times for each floor serviced by the multiple car elevator banks. cars in service. frequency of car stops per car, activation of stop switches, etc. during a series of normal workdays, and other pertinent information which may be requested to be provided. Software and hardware, Including printers, necessary to retrieve and print the data shall be provided to Owner. Statistical Information shall be presented in a user-friendly format and not require special training to interpret the data.

SECURITY SYSTEM

Contractor shall provide means to limit access to each building floor. Ensure the control/security system will allow Fire-fighter's and Independent Service to override the security system. Ensure that the control system, while operating in a secure mode will perform and operate utilising all normal dispatch and emergency features and functions. Provide provisions in-side each elevator/s for "Owner provided" card or proximity reader. Provide the ability to "lock-out" floor calls and scale the degree of security access to each group of elevators within the Elevator Control System. Interface existing building car and/or hall call lock-out security system with new elevator control system.

Access control is required for the four office lifts and two firemans lifts situated within Buildings A & B to restrict access within the building to unauthorised personnel. The type of access control system and configuration to be confirmed. The lift Contractor is to provide all necessary serial interfaces and controller compatibility.

FIRE COMMAND CENTRE AND FIREMAN EMERGENCY OPERATION

Fireman Recall/Emergency Operation shall include Phase I and Phase II operation in accordance with SANS 50081-20 Elevator Code requirements and local governing Code requirements. Provide digital LED direction indicators and hoistway position display, two position keyed switch in accordance with SANS 50081-20 Elevator Safety Code, new Car to Lobby key operated switches for each elevator,

- Auto/Manual Emergency Power sequencing, (allow one elevator to operate under Emergency Power Operation) and an Intercom Commutations Device shall be located in the Fire Command Centre, Machine Room (if available), and each elevator cab.
- Fireman Recal Emergency key switches shall be located in the main Fireman access floor elevator lobby and installed per the requirements of SANS 50081-20
- All floor access restrictions shall be overridden on Fire/Emergency operation.
- The elevator control system shall be tied in with the building Fire Alarm system (Heat/Smoke Sensing Devices) and tested with the Fire Alarm system Contractor.

EMERGENCY POWER OPERATION

The emergency power system shall be connected to the elevators. In the event of a normal power supply failure, the elevator system shall be arranged to operate from an existing emergency power supply source and auxiliary contacts. The emergency power shall be available to all elevators in the system through the normal power feeders. The emergency power shall be of the same characteristics as the normal power and shall have the same phase rotation.

Contractor shall provide circuitry in the elevator controller so that after normal power failure and establishment of emergency power, one (1) elevator shall automatically proceed to the designated landing where it will stop and deactivate with the doors open and with all of its power and operating

circuits in an operable standby condition. After each elevator in the system has returned to the designated landing, one (1) pre-selected elevator shall remain operational in each elevator bank on the emergency power. Should the pre-selected elevator fail to operate, another elevator shall automatically be selected. The Emergency Power Operation switches may be integrated in the Fire Command Panel. The manual switch shall override the automatic selection and permit the operator to select any car. Upon restoration of normal power, all elevators shall return to normal operation.

Contractor shall include an Automatic Rescue Device per lift

INDEPENDENT SERVICE

Independent Service operation, activated from the Independent Service switch, shall permit any one or more elevators to be removed from the system and used for special service without interfering with the normal operation of the remainder of the elevators operating within the system.

When on Independent Service, the elevator shall be disconnected from the system and shall respond only to calls registered on the car buttons. Hall calls shall be automatically by-passed and hall lanterns and high call operation circuits shall be inoperative. The car doors shall close only when a car call button is pressed.

In the event an elevator is operating on Independent Service and Fireman/Emergency Operation recall becomes activated, following a period of approximately 60 seconds, the elevator shall automatically override Independent Service and engage Phase I Emergency recall. This operation shall be subject to acceptance by Code and Code enforcement authority.

DISABILITIES ACT

Provide a voice announcement system and floor passing chimes. The elevator system operation shall comply with the requirements of the Disabilities Act. The hall lanterns shall provide a visual and audible signal of arrival of an elevator at a floor. The hall lantern audible signal shall sound once for an Updirection elevator and twice for a Down direction elevator. The hall lanterns shall signal approximately 3 seconds prior to the arrival of the elevator to the floor. Doors shall open and close automatically and car doors shall include a door-reopening device. The door-reopening device shall remain operative for a minimum of 20 seconds. Door dwell time shall comply with the T = D/l .5 formula. Doors shall remain open for a minimum of 5 seconds for a hall call and 3 seconds for a car call. The car position indicator in the car shall provide visual and audible indication of when the car passes or stops at a floor.

DRIVE MACHINES

Furnish and install AC hoist machines, preferably with the gearless type.

Should the machines be geared type machines, new Emergency Brake "Rope Gripper" in accordance with SANS 50081-20, Ascending Car Over-speed and Unintended Car Motion Protection shall be installed.

SIGNAL FIXTURES AND ACCESSORIES

- Car Operating Panels shall comply with the SANS 50081-20 and the Disabilities Act.
- Each COP shall include LED illuminated pushbuttons marked to correspond to the landings served, a "door open" button, and "door close" button. The floor pushbutton shall be illuminated when a call has been registered and shall remain illuminated until the car reaches the indicated floor. In the lower portion of the Main COP a Service Cabinet shall be provided and contain a key operated Car Light, Fan switch and Independent Service key switch. A fire service indicator light and blank keyed switch for future use shall be provided. Furnish and install a new "hands free" Communications Device in accordance with the Disabilities Act requirements.
- A two-way communications device (intercom) shall be provided In each elevator cab, Command Centre, and elevator machine room. If the device is connected to the building power supply it shall automatically transfer to a source of emergency power within ten (10) seconds after the normal power supply fails and be capable of powering the communications system for a minimum of four (4) hours. The communications device shall be integral to the car stations and from the car be voice activated.
- Intercom — cable must be allowed for by the tenderers between each lift and the control room as detailed on the attached building plans. This includes the supply, reticulation and all final connections by the Lift Contractor.
- An electrical digital position indicator shall be provided in all COP's, and so arranged that as the car travels through the hoistway its position shall be indicated by illumination of a numeral corresponding to the landing at which the car is stopped or passing, it shall also include for special function messages to be displayed via this display, including "lift overloaded, lift held, lift under fire recall, lift under reservation service, lift out of service etc." The digital position indicators shall be mounted in the upper portion of each car-operating panel.

- Upon arriving at a floor, the new Voice Annunciate System shall announce the floor in which the elevator is sitting as well as the intended direction of travel. An audible signal (Floor Passing Chime) shall be provided to indicate to a passenger on the elevator car that the car is stopping or passing a floor.

- A battery-operated emergency car light device shall be installed which will automatically turn on and operate immediately after normal car lighting power fails. The lighting device shall be so installed in the car enclosure to provide an intensity of illumination as per SANS 50081-20 in front of the car operating device. The battery power shall be capable of maintaining the above referenced illumination for a period of not less than four (4) hours.

- An emergency alarm bell shall be connected to a plainly marked pushbutton in the car-operating panel and to the battery-operated emergency car light device.

- Hall Call Pushbutton Stations: Each intermediate station shall consist of two illuminated pushbuttons ,one for the up direction and the other for the down direction. Each terminal station shall contain an illuminated pushbutton. The buttons shall be illuminated to indicate that a call has been registered at that floor for the indicated direction. Stations shall be Installed to comply with SANS 50081-20 and Disabilities Act. The faceplate finishes shall be satin finish stainless steel and each faceplate shall include engraving as per SANS 50081-20.

DOOR OPERATING EQUIPMENT

Furnish and install VVVF motor driven heavy-duty operator on all cars. The door operators shall be designed to operate the car and hoistway doors simultaneously. Door movements shall be electrically cushioned at both limits of travel. Doors shall automatically open when the car arrives at a landing and shall automatically close after an adjustable time interval or when the car is dispatched to another landing. The door operator shall be fully closed loop providing feedback and continuously monitor the position of the door throughout the door travel. The door operator shall be capable of applying more torque for heavy lobby doors and to handle varying hoistway wind conditions. Provide "Car Door Restrictors" to prevent the car doors from opening when the elevator is outside the ᵁ levelling zone."

Provide a solid-state electronic detector, full length of the leading edge of the car doors, and designed to operate as described below:

- The doors will remain open as long as the electronic detector senses the presence of a passenger or object in the door opening. If door movement is obstructed for a predetermined time, a buzzer will sound and the doors will close at reduced speed.

- If a passenger or object is detected during normal closing operation, the doors will immediately stop and reopen. Closing will be initiated one-half second after the passenger or object has been removed from the opening.

- The doors shall remain open for an adjustable time for a stop in response to a car call and a second variable time for a stop in response to a hall call. If the beams of the electronic detector are interrupted and re-established, door open time for a car stop and for a hall stop shall be reduced.

HOISTWAY EQUIPMENT

- Each elevator shall be suitably counterbalanced for smooth and economical operation. Cast iron or steel plate weights shall be contained in a structural steel frame. The counterweight shall be equal to a complete elevator car and approximately 50% of the specified load. Contractor is responsible for properly balancing the load.

- Limit switches shall be placed in the hatchway near the terminal landings and be designed to cut off the electric current and stop the car should it run beyond either terminal landing.

HOISTWAY ENTRANCES

The hoistway door tracks, hanger rollers, closers, pick up rollers and interlock shall be designed to prevent operation of the car away from the landing until the doors are locked in the closed position as defined by Code and shall prevent opening the doors at any landing from the corridor side unless the car is at rest at that landing or is in the levelling zone and stopping at that landing. Interlocks shall have test type certification as per SANS 50081-20.

The Tenderer is to include steel support plates to close all potential gaps between the door sill and the slab threshold.

Hoistway door unlocking devices as specified by SANS 50081-20 shall be provided to permit authorised persons to gain access to hoistway when elevator car is away from the landing.

Provide floor numbers, not less than 100mm in height on the hoistway side of the hoistway doors at intervals as per code.

PIT EQUIPMENT

- Counterweight buffers, pit ladders and all other pit equipment shall comply with SANS 50081-20.
- An emergency stop switch shall be provided in the elevator pit of each elevator. A stop switch shall be installed at the top of the ladder and at the bottom in accordance with Code. The switch shall be designed to cut off power to the elevator motor, apply the brake and bring the car to rest independent of the regular operating devices.

PERFORMANCE

The elevator system shall be required to meet the following performance criteria.

CONTROL

Design and adjust the equipment and the control so that the acceleration over the total accelerating period is smooth and comfortable.

Provide a shaft encoder as part of the operating system to accurately provide input signals to the control locating the exact position of the elevator within 5mm,

OPERATING TIME

Adjust the equipment to meet the times listed in the following chart:

Door Open	1 .7
Door Close	2.8
Flight Time	10.5
Brake to Brake	6.5
Contract Speed +- 3%	As specified

The following are criteria to be used when measuring the time durations:

- Brake-to-Brake time: Start measuring the time at the time the brake lifts and the car begins to travel to the next landing; stop measuring the time when the car is level at the next floor and the brake sets
- light Time: Start to measure this time when the fully opened doors begin to close and continue to measure the time until the car is stopped level with the next floor and the car and hall doors are open to % of their fully open position for centre opening doors or % open for side opening doors.
- typical floor shall be 3600mm.

- Floor level is considered to be within 3mm of level.
    - The time is measured with full load in the car and in both directions of travel.
    - The power door operation for the hall and car doors conforms to the elevator Code requirements.

- Adjust the equipment so that the operating speed in both directions of travel under load and no load conditions does not vary more than three (3%) percent.

- Adjust the equipment so that the operating time as set out above is compatible with dependable, consistent operation without undue wear on the equipment, can be maintained without excessive maintenance and so that the operating time can be readily maintained over the life of the elevator installation.

- Adjust the equipment so that, with the control adjusted to give the required time, the elevator operates under smooth acceleration and retardation and provides a comfort-able and agreeable ride to the passengers.

LEVELLING

Cause the car to stop automatically at the floor level without overshooting, regardless of the load or direction of travel, so that the car sill is within 3mm of level with respect to the hoistway sill.

Correct for over-travel or under-travel or rope stretch by returning the car imperceptibly to the floor, Re-levelling shall not commence within the 3mm floor landing zone, above or below, with the doors in the open position. Re-levelling sequence of operation within this zone shall be initiated with the car doors in the closed position only.

DOOR TIME; DOOR OPERATION

- Arrange the doors to close with an average horizontal speed of no more than 0.3m/s.
- Arrange that the time necessary for the doors to operate as per the following:
    - Opening: Start to measure when door starts to open and stop when fully open.
    - Closing: Start to measure when door starts to close and stop when door is fully closed.
    - Car & Hall Door Dwell Time: 3 seconds after stopping for a car call. Timer to be adjustable from 1 to 8 seconds, 5 seconds after stopping for a hall call. Adjust the hall call time as per ADA formula requirements.
    - Reduced Short Door Time: Initially adjusted to 1 second after interruption of the electric edge to be adjustable from O to 10 seconds.
    - Lobby Door Time: Initially set per ADA code requirements. Timer to be adjust-able to between 5 and 15 seconds.
    - Arrange that the door closing force, as measured when a door panel is stalled in the act of closing, does not exceed 30 lbs.
    - Arrange the equipment so that the increase in noise level over the ambient noise level as measured within the cab, does not exceed four decibels at any time during a full door open, door close and door reversal cycle.

BRAKE

- Arrange for the brake to be able to stop the elevator with full load in the car from full speed in the down direction within the normal stopping distance of the car without shock or jar.

- Test by turning the disconnect switch off under these conditions and measuring the resultant stopping distance.

- Adjust the brake to hold a minimum of 125% of the contract load.

- Design and adjust the brake so as to operate without discernible noise.

- Adjust the brake to permit the brake to set after the car has stopped level at the floor on a normal stop for a car or floor call. Do not use the brake to assist in stopping the car at the floor on a normal stop.

SAFETY AND GOVERNOR TESTS

- Arrange the safety so that the car stops with both no load and full load, on a safety test, without excessive acceleration, without damage to the equipment and within Code requirements.
- Calibrate, test and seal the governor and document in accordance with Code requirements.

RIDE QUALITY

- The horizontal ride quality (left to right and front to back) shall be 20 mg's peak-to-peak or less.
- Ensure smooth quite operation in full travel, floor-to-floor runs and door operation.

WIRING

All wiring shall be new to ensure proper operation as set forth in this Contract/Specification.

TESTS

Perform Fire Service tests and Emergency Operation Service and signalling devices to conform to

SANS50081

- The Contractor shall ensure that every lift is inspected and tested by a registered person in accordance with SANS 50081-20 specification, before such lift is put in use for the first time. This registered person shall complete the comprehensive report separately for each lift inspected and tested and shall date and Sign such report and submit said report within 30 days to the user, who shall keep the report in a safe place in the machine room or machine compartment.
- Completed copies of test reports shall be provided to Owner.

CLEAN UP AND INSPECTION

1. Remove all debris resulting from work on this contract. Remove from project site all equipment and unused or removed materials and restore building and premises to neat, clean appearance.
2. All materials and workmanship shall be subject to inspection or testing. Owner or its representative shall have the right to reject defective or inferior material or workmanship and require correction of such without additional cost Owner.

ENERGY SAVING INITIATIVE

1 The supplier is to attach together with the price submission a report including a basic description of the energy efficiency initiatives and their contribution to the energy and environmental strategy within this project. The report will indicate the power consumption of the various lifts and escalators will draw during the peak periods.

2. After completion of the contract, the Contractor is required to provide the actual consumption readings which will be compared to the figures indicated in the initial report.
3. Should the discrepancies between the initial report and the actual readings be more than 10%, the lift/escalator Contractor will have to take the necessary actions to correct and bring the equipment to the desired consumption as stipulated the initial report. If the lift/escalator Contractor is not able to achieve the actual power consumption as stated in their initial report, the difference in costs between the actual power and the initial report, will be deducted off the monthly maintenance price post the installation phase.

GREEN STAR SUBMISSION

Please note, this building will have a Green Star Rating, therefore the successful tenderer will be required to provide a design intent report, as-built drawings, an operations and maintenance manual and a commission report, as well as comprehensive training to building management staff, to allow for the building to operate in its intended manner.

The design intent short report is to include a basic description of the energy efficiency initiatives and their contribution to the energy and environmental strategy.

After completion of the contract, the Contractor is required to provide training and transfer system knowledge to the building owner/manager by submitting documented Design Intent, As-built drawings, Operational and Maintenance Manual. Commissioning Records, Commissioning Report and by providing training on all the systems to the building management staff to ensure that they have all the information and understanding needed to operate and maintain the features and systems in the building.

The Commissioning Report must:

- Demonstrate that the services were commissioned in compliance with CIBSE Commissioning Codes for all services;
- Include commissioning dates, records of all functional/commissioning testing undertaken, a list of any future seasonal testing, and a written list of outstanding commissioning issues;
- Include the outcomes and changes made to the building as a result of the commissioning process, accounting for all of the recommendations; and

Reference appended extracts of commissioning records for major plant and equipment, which include.

- Include particular and definitive commissioning specifications from the design engineer setting out clearly what is expected of the commissioning specialist (independent or otherwise). This should include commissioning tolerances on all commissioning parameters and a clear description of how it is intended that the system should operate and the design parameters. The design should also produce cause and effect' sheets showing how the design is intended to operate. Also, commissioning specification details of safety controls and interlocks to protect the equipment and personnel during the commissioning process;
- Requirements for witnessing including full details of tolerances applicable to all parameters;
- Commissioning program including specific period of time for client witnessing;
- Appropriate health and safety risk assessment and method statements for the tasks to be completed;
- Commissioning method statement for each system;
- Pre-commissioning checklists for each system;
- Commissioning checklists; and.
- Commissioning certification for each system countersigned by the design engineer, commissioning specialist (independent or otherwise) and the accepting authority (where relevant) and including the record sheets provided in each CIBSE code.

The Operations and Maintenance Manual must describe how the facility will be operated and by whom, as well as the desired level of training and orientation required for the building occupants to understand and use the building systems.

The training provided must at a minimum include:

- Information provided in the design intent report (including energy/environmental features)
- Review of controls set up, programming, alarms and troubleshooting
- Review of O&M manuals
- Building operation (start up, normal operation, unoccupied operation, seasonal changeover, shutdown)
- Measures that can be taken to optimise energy efficiency
- Occupational health and safety (OH&S) issues
- Maintenance requirements and sourcing replacements
- Obtaining and addressing occupant satisfaction feedback

The Contractor is to coordinate the commissioning of all building services (BMS, mechanical, electrical, hydraulic, vertical transportation and fire protection) in exact accordance with CIBSE Commissioning Codes, or alternatively ASHRAE Commissioning Guideline 10-1996 may be used for mechanical services. Contractor shall coordinate full commissioning report and training to ensure that building management staff has all the information and understanding needed to operate and maintain the features and systems in the building '.

Green Star requirements are for pre-commissioning, commissioning and quality monitoring to be done In accordance with CIBSE Commissioning Codes (Please include commissioning requirements to adhere to CIBSE Code M - Management Guidelines).

The Contractor will allow for monthly visits for 12 months after practical completion of the Building to do monthly monitoring of all systems installed by the Contractor. Quarterly reviews and tuning reports shall be submitted to the building owner to verify that all subsystems are performing to their design potential during all variations in occupancy and corrective action can be taken where necessary. Time schedules are to be optimised to best match occupant needs and system performance. and all systems' operation to be aligned to the attributes of the built space they serve. Full re-commissioning of all building systems is to be carried out 12 months after practical completion, taking into account alt the building tuning done during the previous 12-month period. A Building Tuning Report on the outcomes of the tuning process is to be provided to the building owner and made available to the design team.

During this time the electrical Contractor will be responsible for:

- Monthly monitoring
- Quarterly reporting to include:
- The three-monthly reports involved
- Identify all exceptions and remedial actions taken
- Comment on seasonal changes and fine-tuning actions relating to seasonal changes.
- Document seasonal changes so that they are to hand for future seasonal changes.
- Where BMS present: On metering and comfort, provide summary trends for the 3-month period and prior quarterly periods.
- 12-month recommissioning and Final building tuning report.

The Lift Consultant shall be responsible for:

a. Overseeing the commissioning process of the electrical systems and
b. Reviewing the building tuning report on the electrical systems.

The Lift Consultant and/or building owner shall be responsible for ensuring that corrective action is taken In response to issues arising out of the building tuning.

Suggested Sequence of Installations

Note the tenderer may provide their own sequence and project plan which ensures that the project is completed on time with no operational disruption.

Further notes on observation lifts

All exposed steelwork, including equipment; back of door panels, motors; counterweights. etc. including conduits, if any, to be degreased and powder coated Black.

All conduits to be cast into lift pit

- Stainless steel fascia to all exposed floor slab edges, by lift supplier
- Control panels to be mounted on internal lift steel beams. No control panels to be mounted on exterior glazed lift wall faces. If possible, these control panels are to be in a separate control room
- Any exposed wiring to be housed in galv. Conduits/Trunking which are to be degreased and painted to suit lift shaft wall.
- Allowances to be made for continuous welds, grinding and patching for all steel work connections. Samples / detailed drawings to be provided for all steel work connections for approval by architect.
- Shop drawings to include detail of all finishes, colours and fixing methods/closure panels
- All internal and external finishes to be specified according to Architects' specification document
- All trims and closure panels to be stainless steel
- Infill panels to be supplied on inside of shaft to cover the bricked-in section of the landing entrances

- Top of Lift Car handrails to be in Stainless steel and collapsible
- All facia cladding to be painted mild steel as per architect's instruction.

EXTERNAL LIFT BUTTONS & INDICATORS HBP (HALL BUTTON PANEL)

- Lobby hall buttons only allow for calling lift car up or down.
- Destination car buttons exist within the lift car.
- All Buttons Type BR-002
- Faceplate Hartjne Stainless
- Steel
- All Illumination, Blue
- Radius 40mm — Stainless
- Steel
- Braille/numbering/

Elevator Replacement

Labour ID	Description	Qty	OEM	Serving areas
JE 9281	L2A	1	Schindler	Duty free
JE 9285	L2B	1	Schindler	Duty free
01/L1802	L15A	1	Kone	TA Departure
01/L1803	L15B	1	Kone	TA Departure
Labour ID	**Description**	**Qty**	**OEM**	**Serving areas**
01/2824	L4A	1	Schindler	Atrium
01/2818	L4B	1	Schindler	Atrium
01/2817	L4C	1	Schindler	Atrium
Labour ID	**Description**	**Qty**	**OEM**	**Serving areas**
01/L554	L5A	1	OTIS	TB Arrival
01/L555	L5B	1	OTIS	TB Arrival
01/L552	L4A		OTIS	TB Departure
01/L553	L4B		OTIS	TB Departure
Labour ID	**Description**	**Qty**	**OEM**	**Serving areas**
01/L430	L37 - Firemans	1	OTIS	TA
01/L246	FL29	1	Mitsubishi	Cargo
01/L247	FL30	1	Mitsubishi	Cargo
01/L248	FL31	1	Mitsubishi	Cargo

The Contractor to hand the following items to Project manager at the end of stripping of each Elevator

Inclusive of all Elevator

1. Sheaves

2. Main Drive
3. PC Boards
4. Buttons
5. Motor

Equipment Life Span

- The life span of the Elevators is 15 years (refer to **Annex C** for the list and life span)
- The list of equipment commissioning dates has been provided on **Annex B.**

OEM Requirements

The O.E.M recommended the below preventive maintenance for the Elevators:

- Quarterly maintenance
- Bi- annual maintenance
- Annual Maintenance

ACSA: O.R Tambo international Airport has since implemented daily inspections for the Elevators.

Condition of the plant

The maintenance history of the equipment has been logged with ACSA Integrated maintenance centre.

- The list breakdowns and faults experienced and the estimated time for repair on the Elevators are listed on **Annexure F.**
- The preventative maintenance previously performed on the Elevators are listed on **Annex I**, for the actual work orders with tasks, ACSA Integrated maintenance centre can be contacted to issue actual.
- A sample of root cause analysis on the Elevators has been attached on **Annex E**. Also, the root cause analysis must be performed, and the Root cause analysis form completed by the Contractor and handed over to ACSA service manager after each breakdown.

Site Information

- The Elevators are located at on the airside and landside at O. R. Tambo International Airport (refer to Annexure A for a full list of equipment).
- The airport layout and site information has been provided on **Annex B**.

Minimum work requirements and Legislations:

Maintenance of Elevators shall as minimum conform to the following Procedure and or other legislative references (Gazetted Standards or OHS Regulations):

- ACSA maintenance procedure for Elevators - as provided in **Annex L.**
- The preventative maintenance previously performed on the Elevators are listed on **Annex I**, for the actual work orders, ACSA Integrated maintenance centre can be contacted on 011 921 6210.

Note: above is the list of minimum regulations and legislative requirements that the Contractor needs to adhere to as mandatory requirements (**work should be carried out by competent people as prescribed in the law and shall be auditable by the employer at any given time**)

Access to site

- Airside training and permit should be completed and issued before accessing airside and commencement of work.
- AVOP training and permit should be completed and issued before the commencement of work for personnel driving required to drive on airside.

- Permission must be obtained from ACSA operations and IMC before an equipment can handed over to the Contractor for works and such arrangements must be done prior and timeously.

Site Restrictions

- Airside training and permit should be completed and issued before accessing airside and commencement of work.
- AVOP training and permit should be completed and issued before the commencement of work for personnel driving required to drive on airside.
- The safety file should be completed and approved by the safety department before commencement of work. The safety file is a living document and must be continuously updated with all requirements as specified by law. Also, will be auditable from time to time.
- Personal Protective Equipment should be issued before the commencement of work.

Risk

The are some of the risks identified but not limited to the below and to **Annex E** list.

Current Guarantees and warrantees to be maintained:

- Annex W - N/A

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.

Where, such a need is mutually agreed between the Contractor and the Employer, the Employer shall put in place a “Hotline” (i.e. 24-hour telephonic support by product specialist) agreement with the relevant OEM. In this event the Contractor shall be responsible that such Hotline services are always operational and available, but all costs in this regard shall be carried by the Employer. The Contractor shall NOT add any mark-up to any Hotline related expenses. A “Hotline” agreement shall typically ensure that problems relating to system controls are promptly rectified. It is intended that Hotline agreements will be in place with OEMs for PLC related controls and computerised control systems.

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 always – as stipulated in the Annexes. This may be amended by mutual arrangement between the Employer and the Contractor from time to time.

The Contractor shall always remain responsible to ensure that the on-site staff 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 Annexes 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 dependable in Elevators maintenance activities/procedures in the area. 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 be 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.

The Contractor will be responsible for keeping spares levels up to a sufficient quantity and standard as to comply with the requirements of this contract and will charge the Employer accordingly. All spares will be charged according to the Activity Schedule. The Contractor shall arrange for the spares room. The Contractor shall keep the spares room in a neat and clean state and an updated spares list will always be available on-site. Spares will be neatly arranged and easily locatable via an appropriate index on the spares list. Wherever practicable, a notice will be placed on the rack, next to the spare part, as to where the part is used in the installation. A resource will be dedicated to ensuring that spares are effectively managed and scrapped parts and waste removed from site. The space for spare storage shall be allocated by ACSA to the Contractor and can be a shared space as per space availability.

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 on-site support staff is always immediately reachable via cell phone.

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, track suit and a uniquely numbered reflective jacket (for easy identification via CCTV).

Location of the works
The Works are located at O. R. Tambo International Airport including and Western Precinct Building at various locations – mostly in controlled areas. It is crucial for the Contractor to note that O. R. Tambo International Airport is a National Key Point and governed as such.

PROCUREMENT

Preferential procurement procedures
Requirements
The Contractor will respect OEM warrantees to the Employer always when procuring spare parts, products or 3rd party services. It will be the Contractor's sole responsibility to ensure that OEM warranty requirements are adhered to always.

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 conveyor belts and/or other equipment or spares.

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

Subcontracting
No part of this Contract may be subcontracted unless with written approval from the Employer. the Employer 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.

MANAGEMENT

Management of the works
Particular / generic specifications
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 month. Work shall be scheduled in a manner as not to interfere with any normal airport operations.

Normal airport operational hours shall be **from 04:00 to 24:00** for every day of the year.

As a **minimum** requirement, the Contractor shall roster **scheduled** preventative maintenance activities.

Maintenance teams will attend to scheduled preventative maintenance, non-scheduled maintenance and breakdown maintenance. The Contractor must ensure that no scheduled maintenance work is carried over to the following week.

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.)

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 the Employer's business. Therefore, within reason and with prior arrangement with the Contractor, the Employer might require the following from time to time:

- Assisting with emergency repairs on
- Assisting with airport operations Re-scheduling of work to accommodate other Contractors
- Allowing access and providing assistance to OEM suppliers to correct defects on equipment and/or systems
- Checking on other Contractors in order to reduce risk to Elevators
- Pointing out services to consultants or other Contractors
- Providing access to other Contractors
- Attending co-ordination and planning meetings
- Removing rubble and/or equipment from site
- Training of ACSA operators and/or technicians
- Training of check-in of Elevators staff
- 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
- Safe / legal disposal of used and irreparable spares

The 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.

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.

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

Format of communications
Work instructions, daily check sheets, monthly maintenance reports, inventory reports, breakdown reports, exception reports, etc. will all be in a format as agreed with the Service Manager.

Key personnel
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.

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.

Electronic payments
The Contractor should arrange with the Employer's finance department for making all payments electronically.

Daily records
The Contractor shall keep accurate daily records of staff attendance, maintenance work, safety inspections and exception reports. Records shall be available for scrutiny by the Service Manager at any time. All records shall be in a format as agreed with the Service Manager.

Monthly reports
When invoicing, the Contractor shall ensure that all required reports for the corresponding month are attached to the monthly invoice. This will include monthly reports on but not limited to:

1. system availability (averaged per week)
2. maintenance work (including % of scheduled maintenance work completed)
3. daily checks performed
4. maintenance plan for the next month
5. the latest spares inventory

6. Assets register up to date including equipment data
7. Root cause analysis records
8. Safety/Environmental or legislative issues and compliance
9. Outstanding maintenance issues

The Contractor shall keep copies of all reports and records for at least 3 years. All reports shall be in a format as agreed with the Service Manager from time to time.

Permits

The Contractor shall not be compensated for costs relating to the Employer's 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 the Employer'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 the Employer 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.

Health and safety

Health and safety requirements and procedures

The Service Manager shall be entitled to fine the Contractor low service damages 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.

The Contractor is required to issue all staff with standard uniforms. This shall as a minimum include steel-tipped safety shoes/boots, overalls (clearly marked with Contractor's company logo) and numbered reflective jackets (also clearly marked with Contractor's company logo, the team members unique personnel number in a font size to be instructed by the Service Manager). 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.

Enterprise and Supplier Development Initiatives

It is a requirement of this project that the successful tenderer enters into a contract (either through partnership, joint ventures or sub-Contractors) with Targeted Enterprise(s) as defined in the Contract Data to perform a minimum of Thirty percent (30%) of the tendered contract value.

Tenderers must state transformation deliverables that are both achievable and measurable as the successful tenderer will be required to issue comprehensive monthly reports in response to this tender requirement. The monthly report will be assessed by ACSA"s Internal Transformation Committee, which is accountable for implementation of ACSA"s Transformation initiatives.

Definition of a Targeted Enterprise

A registered built environment professional firm contracted (either by Joint Venture, partnership or sub-contracting) by the tenderer to perform a specified percentage of work stated in the Contract Data under the guidance of the tenderer and which complies with the following:

a) does not share equity holding with the tenderer; and
b) is registered in terms of the Company's Act, 2008 (Act No. 71 of 2008) or Close Corporation Act, 1984 (Act No. 69 of 1984); and
c) is registered with the South African Revenue Service; and
d) is at least an Exempted Micro Enterprise (EME) with a B-BBEE Status of "Level One "Contributor", as defined in the Amended Codes of Good Practice for measuring Broad-based Black Economic Empowerment (published in Government Gazette No. 36928 on 11 October 2013) or?
e) is at least a Qualifying Small Enterprise (QSE) with a B-BBEE Status of "Level One? Contributor", as defined in the Amended Codes of Good Practice for measuring Broad-based Black Economic Empowerment (published in Government Gazette No.36928 on 11 October 2013).
f) has entered into a written relationship agreement of co-operation and assistance with the tenderer for the duration of the contract.

Participation of Targeted Enterprise(s)

The involvement of Targeted Enterprise(s) in the project management, manufacturing and testing is a mechanism to broaden the economic share of the national spend on engineering services and a means to hasten and improve the transfer of technical skills.

The percentage specified for Targeted Enterprise shall be applicable to the management, manufacturing and testing aspects of the project.

Transformation monthly reporting

The tenderer shall report monthly and provide the following documents:

- The skill development or transferred during the month in question and
- The progress of the targeted enterprises skill development.
- Proof of payment to the target enterprise

Sanctions for non-compliance with the transformation proposal

In the event that the tenderer does not meet the specified target of work value to the Targeted Enterprise, ACSA shall levy a penalty. The penalty payable is 50% of the value by which the cumulative value of the payments to the Targeted Enterprise fails to meet the specified percentage. The Targeted Enterprise(s) shall not be allowed to sub-contract any work that forms part of the specified participation percentage.

Enterprise Development (Transformation)

The *Contractor* agrees to subcontract a minimum of 30% of the contract value to selected enterprise development for the duration of the Contract.
The *Contractor* shall ensure that the skills transfer to the Targeted Enterprise is in accordance with the Structured Skills Transfer and Enterprise Development Programme in Annexure I agreed to by the *Employer.* This programme may be amended and agreed to with the *Service Manager* as and when deemed fit.

Definition of a Targeted Enterprise in the tender

CIDB registered firm contracted (either by Joint Venture, partnership or sub-contracting) by the tenderer to perform a specified percentage of work stated in the Contract Data under the guidance of the tenderer and which complies with the following:

1. Does not share equity holding with the tenderer or *Contractor*; and
2. Is registered in terms of the Company's Act, 2008 (Act No. 71 of 2008) or Close Corporation Act, 1984 (Act No. 69 of 1984); and
3. Is registered with the South African Revenue Service; and
4. Is at least an Exempted Micro Enterprise (EME) with a B-BBEE Status of "Level Two Contributor", as defined in the Amended Codes of Good Practice for measuring Broad- Based Black Economic Empowerment (published in Government Gazette No. 36928 on 11 October 2013); or
5. Is at least a Qualifying Small Enterprise (QSE) with a B-BBEE Status of "Level Two Contributor", as defined in the Amended Codes of Good Practice for measuring Broad- Based Black Economic Empowerment (published in Government Gazette No. 36928 on 11 October 2013); and
6. Is 50% or more black owned or 30% or more black women owned; and
7. Has entered into a written relationship agreement of co-operation and assistance with the tenderer for the duration of the contract.

Participation of Targeted Enterprise(s)

The involvement of Targeted Enterprise(s) is a mechanism to broaden the economic share of the historically disadvantaged in the national spend on engineering services and a means to hasten and improve the transfer of technical skills.

The CPG percentage specified shall be applicable to actual work. ACSA set the target as part of the tender process. The tenderer is to submit as part of this tender a Program on how they are to achieve the set minimum targets.

Training of Targeted Enterprise(s)

Training of the Targeted Enterprise involved in this project is a reportable monthly even in terms of time and cost based on the development Program.

The Targeted Enterprise(s) shall not be allowed to sub-contract any work that forms part of the specified participation percentage.

Targeted Enterprise	ACSA CPG:
Qualifying Small Enterprises OR Exempted Micro Enterprises THAT ARE 30% Black Women owned OR 51% Black owned	≥30%

Requirements of an Enterprise Development Program

The successful tenderer/s is (are) required to:
List as part of his tender submission all the works identified for the Targeted Enterprise(s), clearly indicating the extent of the scope and the percentage allocated to each identified company.

- Enter into a long term development agreement with Targeted Enterprise(s)
- Have a Program for Enterprise Development in place.
- Submit a proposal that details the implementation, monitoring and measurement of the outcomes of the Development Program(s).
- Have Development coordinator in its team
- Have experience in implementing enterprise development Programs

The enterprise development shall incorporate:

- Developing a Program specific to the contract to improve the Targeted Enterprise(s) performance in the identified development areas and which allocates resources and monitors progress in relation to improved performance; and
- Submitting to ACSA's representative(s) at regular intervals development reports, countersigned by the Targeted Enterprise(s), which document all enterprise development and mentoring activities that have taken place during that period and the progress made in improving the Targeted Enterprise(s) performance in the identified development areas.

The Targeted Enterprise(s) shall not be allowed to sub-contract any work that forms part of the specified participation percentage.

In the event that the *Contractor* does not meet the specified target of work value to the Targeted Enterprise, ACSA shall levy a penalty.

The penalty payable is 50% of the value by which the cumulative value of the payments to the Targeted Enterprise fails to meet the specified percentage.

Skills Development

The *Contractor* is required to comply with the CIDB Standard for Developing Skills through Infrastructure Contracts. The *Contractor* shall achieve in the performance of the contract the Contract Skills Development Goals, expressed in Rand, which shall be no less than the contract amount multiplied by a percentage factor of (0.25.%)

Achieving the Contract Skills Development Goal (CSDG)

(i) Section 3.2 of the CIDB Standard for Developing Skills through Infrastructure Projects 9 Government Gazette 36760, volume 578 of 23 Aug 2013) explains the various methods of achieving the CSDG. Tenderers must indicate the chosen method(s) in their submission.

(ii) In the event that the *Contractor* fails to substantiate that any failure to achieve the contract skills development goal was due to reasons beyond the Contractor's control which may be acceptable to the employer, sanctions shall apply as follows.

In the event that the *Contractor* does not meet the specified CSDG target, ACSA shall levy a penalty which is equal to 50% of the Total Notional Cost over contract duration of the skills development program

.

Requirements of a Skills and Enterprise Development Program

The tenderer shall nominate or appoint a development coordinator to:

a) Develop a Program specific to the contract to improve the Targeted Enterprise(s) performance in the identified development areas and allocate resources and monitor progress in relation to improved performance; and

b) Submit to ACSA's representative(s) at regular intervals development reports, countersigned by the Targeted Enterprise(s), which document all development and mentoring activities that have taken place during that period and the progress made in improving the Targeted Enterprise(s) performance in the identified development areas.

ANNEXES to C3 (Service information)

Title	Annex number	Applicable or N/A
Schedule of Equipment	Annex A	Applicable
Site information	Annex B	Applicable
Risk assessment	Annex C	Applicable
Previous completed PMs	Annex D	Applicable
Root cause analysis	Annex E	Applicable
Estimated times for breakdowns/faults	Annex F	Applicable
Key Performance Indicators	Annex G	Applicable
OHS Act Appointment by Contractor	Annex H	Applicable
Minimum Maintenance Programme	Annex I	Applicable
Environmental Terms and Conditions	Annex J	Applicable
Maintenance of Elevators Spares List	Annex K	Applicable
ACSA maintenance procedure for Elevators	Annex L	Applicable
IMCC procedure	Annex M	Applicable
Internal and external factors outside the Contractor's control	Annex N	Applicable
ACSA Mechanical Standardised Minimum: legal requirements and minimum competency requirements	Annex O	Applicable
ACSA Inventory management procedure	Annex P	Applicable
Detail Technical Specification	Annex Q	Applicable
Schedule of equipment To Be Replaced	Annex R	Applicable

ANNEX A

SCHEDULE OF EQUIPMENT

The tender must not that this is a close estimate of the number of equipment and systems on site.

Equipment

Equipment	Gov No	Type	OEM	Floor	Location	Cost
L14A	02/7956	Elevator	IFE	5	TA	
L14B	02/L7957	Elevator	IFE	5	TA	
FL2	01/L1792	Elevator	Kone	13	TA	
L7A	01/L1793	Elevator	Kone	6	TA	
L7B	01/L1794	Elevator	Kone	6	TA	
L6A	01/L1795	Elevator	Kone	5	TA	
L5A	01/L1796	Elevator	Kone	6	TA	
L5B	01/L1797	Elevator	Kone	6	TA	
L18A	02/7958	Elevator	IFE	6	TA	
L18B	02/L7959	Elevator	IFE	6	TA	
L17B	01/L1800	Elevator	Kone	6	TA	
L17A	01/L1801	Elevator	Kone	6	TA	
L15A	01/L1802	Elevator	Kone	3	TA	
L15B	01/L1803	Elevator	Kone	3	TA	
L16A	02/L7963	Elevator	IFE	6	TA	
L16B	02/L7964	Elevator	IFE	3	TA	
L20A	PE5846	Elevator	Kone	2	TA	
L20B	PE5847	Elevator	Kone	2	TA	
CL1	01/L1788	Elevator	Kone	2	TA	
CL2	01/L1789	Elevator	Kone	2	TA	
CL3	01/L1790	Elevator	Kone	2	TA	
CL4	01/L1791	Elevator	Kone	2	TA	
IPL1	02/7951	Elevator	IFE	2	North Pier	
IPL2	02/L7955	Elevator	IFE	2	North Pier	
IPL3	01/L2108	Elevator	Thyssen Krupp	4	North Pier	
IPL4	02/7952	Elevator	IFE	4	North Pier	
L2A	JE9281	Elevator	Kone	4	TA	
L2B	JE9285	Elevator	Kone	4	TA	
L32	02/7960	Elevator	IFE	4	TA	
L33	JE9280	Elevator	Kone	4	TA	
L34A	02/7961	Elevator	IFE	4	TA	
L34B	02/7962	Elevator	IFE	4	TA	
L35A	02/L7953	Elevator	IFE	4	TA	
L35B	02/L7954	Elevator	IFE	4	TA	

VIP1	01/L3040	Elevator	Kone	4	TA	
L19	01/L2823	Elevator	Kone	4	TA	
VIP2	01/L4759	Elevator	Kone	4	TA	

ML1	01/L3117	Elevator	Schindler	7	MSP1	
ML2	01/L3118	Elevator	Schindler	7	MSP1	
ML3	01/L2771	Elevator	Schindler	7	MSP1	
ML4	01/L2772	Elevator	Schindler	7	MSP1	
ML5	02/L7968	Elevator	IFE	5	MSP1	
ML6	02/7969	Elevator	IFE	5	MSP1	
ML7	02/7970	Elevator	IFE	5	MSP1	
ML8	01/L3448	Elevator	Schindler	8	MSP2	
ML9	01/L3449	Elevator	Schindler	8	MSP2	
ML10	01/L3524	Elevator	Schindler	8	City Lodge	
ML11	01/L3450	Elevator	Schindler	8	City Lodge	
ML12	01/L3451	Elevator	Schindler	8	City Lodge	
ML13	01/L3452	Elevator	Schindler	8	City Lodge	
ML14	01/L3453	Elevator	Schindler	8	City Lodge	
MSPTA	01/L9373	Elevator	Schindler	6	MSP	
MSPTB	01/L9374	Elevator	Schindler	6	MSP	
L1A	01/L547	Elevator	Otis	5	TB	
L1B	01/L548	Elevator	Otis	5	TB	
L2	02/L7965	Elevator	IFE	6	TB	
L3A	01/L550	Elevator	Otis	2	TB	
L3B	01/L551	Elevator	Otis	2	TB	
L4A	01/L552	Elevator	Otis	4	TB	
L4B	01/L553	Elevator	Otis	4	TB	
L5A	01/L554	Elevator	Otis	3	TB	
L5B	01/L555	Elevator	Otis	3	TB	
L6	01/L556	Elevator	Otis	4	TB	
L7	01/L557	Elevator	Otis	2	TB	
PL1	NE5874	Elevator	Otis	3	TB	
PL2	NE5873	Elevator	Otis	3	TB	
L1A	01/L2771	Elevator	Schindler	5	TB	
L1B	01/L2772	Elevator	Schindler	5	TB	
L2A	01/L2812	Elevator	Schindler	4	CTB	
L2B	01/L2812	Elevator	Schindler	4	CTB	
L2C	01/L2820	Elevator	Schindler	4	CTB	
L3	01/L2816	Elevator	Schindler	3	CTB	
L4A	01/L2824	Elevator	Schindler	4	CTB	

L4B	01/L2813	Elevator	Schindler	4	CTB	
L4C	01/L2817	Elevator	Schindler	4	CTB	
L5A	01/L2827	Elevator	Schindler	3	CTB	
L5B	01/L2821	Elevator	Schindler	3	CTB	
L6A	02/L9766	Elevator	IFE	5	CTB	
L6B	02/L7967	Elevator	IFE	5	CTB	
L7	01/L2828	Elevator	Schindler	3	CTB	
L8A	01/L2818	Elevator	Schindler	3	CTB	
L8B	01/L2833	Elevator	Schindler	3	CTB	
L9A	01/L2834	Elevator	Schindler	3	CTB	
L9B	01/L3041	Elevator	Schindler	3	CTB	
L10A	01/L3040	Elevator	Schindler	4	CTB	
L10B	01/L3299	Elevator	Schindler	4	CTB	
L11A	01/L3300	Elevator	Schindler	3	CTB	
L11B	01/L2815	Elevator	Schindler	3	CTB	
L12	01/L2829	Elevator	Schindler	2	CTB	
L15A	01/L2819	Elevator	Schindler	3	CTB	
L15B	01/L2826	Elevator	Schindler	3	CTB	
L16	01/L2822	Elevator	Schindler	2	CTB	
L17A	01/L2830	Elevator	Schindler	4	CTB	
L17B	01/L2832	Elevator	Schindler	4	CTB	
FL26	01/L243	Elevator	Mitsubishi	12	Freight Agent	
FL27	01/L244	Elevator	Mitsubishi	12	Freight Agent	
FL28	01/L245	Elevator	Mitsubishi	13	Freight Agent	
FL29	01/L246	Elevator	Mitsubishi	12	Freight Agent	
FL30	01/L247	Elevator	Mitsubishi	12	Freight Agent	
FL31	01/L248	Elevator	Mitsubishi	12	Freight Agent	
L37	01/L430	Elevator	Mitsubishi	4	CTB	
Vimec Stair Lift	V65	Wheelchair stairlift	Vimec	N/A	TB	
Vimec Stair Lift	V65	Wheelchair stairlift	Vimec	N/A	TB	
Omega Platform		Wheelchair stairlift	Jessen	N/A	TA	
Total Cost						

Elevator MAINTENANCE at Western Precinct

WP Block	Lift DoL Unique number	Lift ID number
A	01/L8205	Lift -A
	01/L8206	Lift -B
	01/L8209	Lift - C
	01/L8210	Lift - D
	01/L8211	Lift - E
B	01/L8212	Lift - F

	01/L8213	Lift - G
	01/L8214	Lift - H
	01/L8207	Lift - I
	01/L8208	Lift - J
C	01L8217	Lift - M
	01/L8218	Lift - N
	01/L8219	Lift - O
Parking	01/L8216	Lift - L
	01/L8215	Lift - K

ANNEX B

Site Information

Description
The *services* are situated on the airside of O. R. Tambo International Airport.

General Site Conditions

Temperature (Min - Max)	6ºC to 40ºC
Relative Humidity	15% to 60%
Wind	28m/s
Height above Sea Level	1,680 m
Slope (Existing/Modified)	Level
Seismic	N/A

Figure 1: OR Tambo international Airport

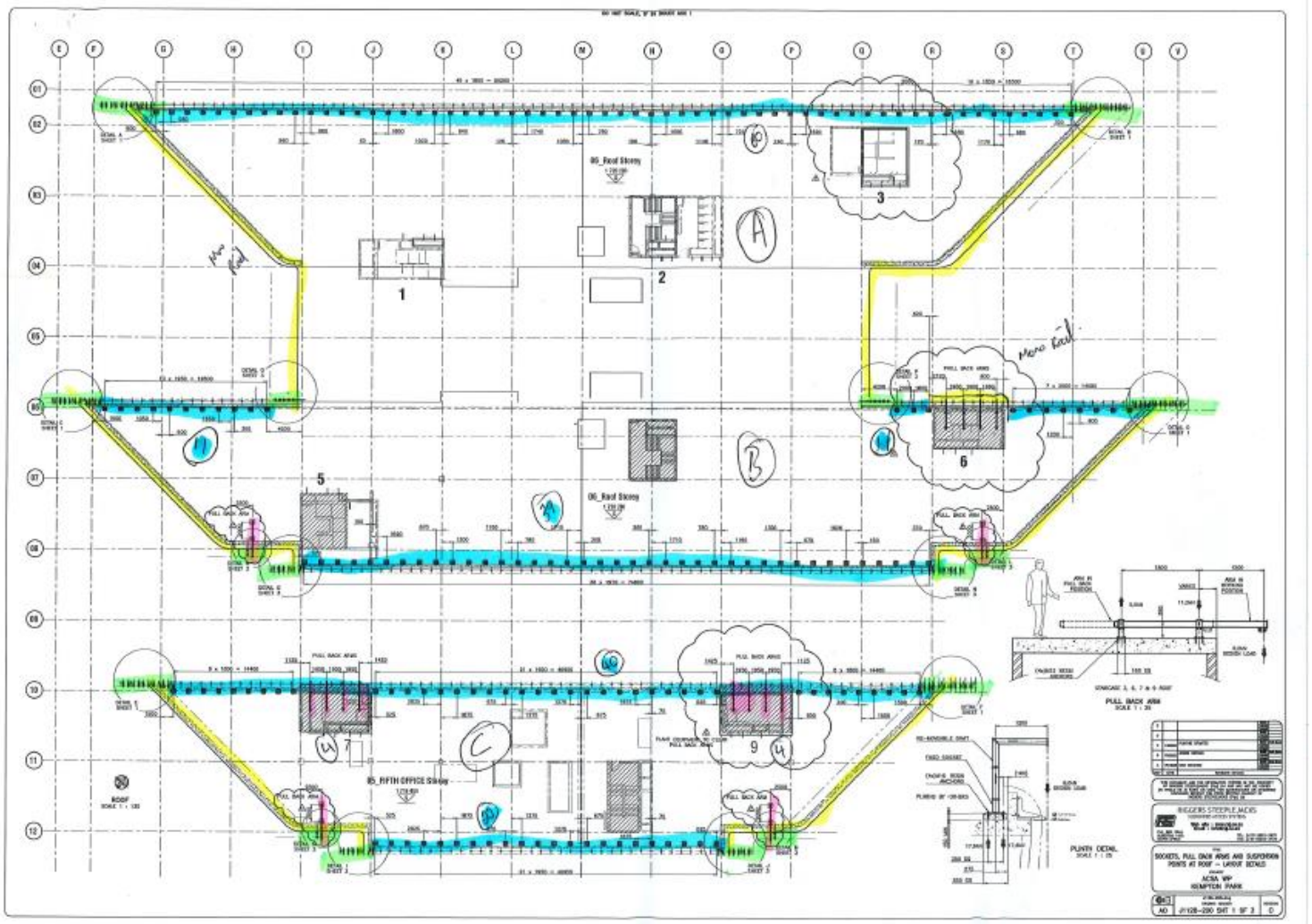


Figure 2: Western Precinct Building

ANNEX C

Risk assessment

OHS Risks

Available from the Service manager on request

Administrative Risks

Risk Number	Risk Description and mitigation measures
1	Safety File not being 100% compliant or safety/environmental infringement could lead to the Contractor being taken off site
2	Expired COIDA letter; Contractor will be taken off site.
3	Insufficient resources on site to perform the work required roster; Contractor will be penalized accordingly
4	Failure to annually present a compliant Tax Clearance Certificate which is considered a material breach of the conditions of this Contract
5	Not meeting set availability target; Contractor will be penalized and failing rehabilitation contract will be terminated as specified in this contract
6	Not meeting set MTTR target; Contractor will be penalized and failing rehabilitation contract will be terminated as specified in this contract
7	Spares list not being updated could lead to extended equipment down times; Contractor will be penalized and failing rehabilitation contract will be terminated as specified in this contract
8	Root cause analysis not performed could lead to repeated equipment failures; Contractor will be Low service damages will be imposed and failing rehabilitation contract will be terminated as specified in this contract
10	Failure to annually present compliant BEE certificate which is considered a material breach of the conditions of this Contract
11	Contract value being expended before contract expiry date; contract will be terminated
12	Contractor not giving documentation for work assessments and payment on time; Contractor will not be payed on time
13	Updated and compliant safety file regarding Covid 19 PPE and risk assessment, as per OHS and regulation.
14	Any change in the law that is reinforced as per clause X2(Changes in the law)
15	Department of labour as an Electrical Contractor

ANNEX D

Previously completed PMs

Available upon request from IMCS

O·R·TAMBO INTERNATIONAL AIRPORT
AIRPORTS COMPANY SOUTH AFRICA

ANNEX E

Root cause analysis

***Root cause analysis must be done for each failure and the form is per below must be handed over after closing* any works.**

ORTIA ME Root Cause Analysis Sheet

Function failure:(Which function was no longer execute) The bridge could not drive due to torn wheel.	Alpha 12passenger loading bridge was not moving due to wheel puncher	**Date:** 2 Decemebr 18	**Time of incident:**	**Reported by/Operator**	MCS. Tsholofelo
Asset class: AIRBRIDGE - APRON DRIVE **Dept:** Mech	**Asset Description:** PLB A12	**Total downtime** 26 hours	**Warning signs before the breakdown:**	NO WARNING SIGNS	
Repaired by: G.Opperman	**Repair time:** 3 hrs	**Waiting time:** 22..23hrs			

Description f fault finding and repair:(what was done to fix the machine/equipment and start operations)
The wheel rubber teared off.

Sketch the working principles and the failure mode:(Event which caused functional failure) Include pictures of the brackets.?? In position

Part/s/component/s replaced:	**Work order/Work Request**	WO 542949	**Failure mode:(Event which caused functional failure)**
1. Bearings 2.Wheel			Torn wheel rubber

Why1 Was rubber torn	**Why2** Shear force	**Why3** out of life expetancy/age was reached	**Why4** Replacemet cycle/not replaced in cycl	**Why5**	**Counter measures:**	**Category**	**Who**	**Date complete**
1.Shear forces	1. Driven over an object 2. Driven with high speed	1. Rushing to dock the A/C	1. Operator not at the loading bridge in time.		1. Operation's procedure to be inforced 2. wheel Inpections to be included in thepreventative maintenence	Man Machine Method Material Environment		

O·R·TAMBO INTERNATIONAL AIRPORT
AIRPORTS COMPANY SOUTH AFRICA

ORTIA ME Root Cause Analysis Sheet

Function failure:(Which function was no longer execute) Passenger loading bridge cannot extend or retract.	Alpha 12passenger loading bridge was not moving due to wheel puncher	**Date:**	Monday, 20 May 2019	**Time of incident:**	09:00
Reported by/Operator	IMC / Leonora				
Asset class: AIRBRIDGE - APRON DRIVE **Dept:** Mech	**Asset Description:** PLB A1RB	**Total downtime**	11Days	**Warning signs before the breakdown:**	PLB struggles to move and is shaking forward and backwards.
Repaired by:	M.Fourie	**Repair time:**	14 hrs	**Waiting time:**	10Days

Description f fault finding and repair:(what was done to fix the machine/equipment and start operations)
Steel wire rope was replaced, set new limits and guide bearings was adjusted.

Sketch the working principles and the failure mode:(Event which caused functional failure)

Part/s/component/s replaced:	**Work order/Work Request**	WR 408955	**Failure mode:(Event which caused functional failure)**
1. Steel wire rope 2. Bearing Roller adjustment			Steel wire rope damaged

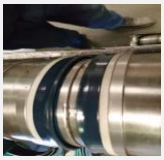
Why1 Was the steel wire rope damaged	**Why2** Cable Tension	**Why3** Out of life expetancy/age was reached	**Why4** Replacemet cycle/not replaced in cycle	**Why5**	**Counter measures:**	**Category**	**Who**	**Date complete**
Tension of cable incorrect	Tension of bearings between tunnels	Visual inspection to be done prior to use	Bearing roller adjustments		1. Operation's procedure to be inforced 2. Steel wire rope tension to be included in inspections 3.Keep spare steel wire rope in stock	Man, Machine		

ORTIA ME Root Cause Analysis Sheet

Function failure:(Which function was no longer execute) The handrail was not turning/moving	Bridge had an auto level failure, Cylinder were leaking internally.	**Date:**	09/062019	**Time of incident:**	16h30
Reported by/Operator	IMC				
Asset class: AIRBRIDGE - APRON DRIVE **Dept:** Mech	**Asset Description:** PLB A13	**Total downtime**	2496 hours	**Warning signs before the breakdown:**	Auto level failure
Repaired by:	G.Opperman	**Repair time:**	complete 08-10-2019	**Waiting time:**	2150 hrs

Description f fault finding and repair:(what was done to fix the machine/equipment and start operations)
Hyd cylinders were leaking internally.

Sketch the working principles and the failure mode:(Event which caused functional failure)
Include pictures of the brackets ?? in position



Part/s/component/s replaced:	**Work order/Work Request**	WO 590388	**Failure mode:(Event which caused functional failure)**
Hyd cylinders repaired , flush hyd system, new hyd filter			Hyd cylinders leaking through

Why1 did it lower by itself	**Why2** seals collapse	**Why3**	**Why4**	**Why5**	**Counter measures:**	**Category**	**Who**	**Date complete**
1.Internal seals were leaking through	1. Hydraulic seals collapse	1.	1.		1. Do more regular test on bridge cylinders	Man, Machine		

ANNEX F

Estimated times for breakdowns/faults

Diagnostic & Repair Call description	Estimated time to repair (hrs.) from the ACSA system as per Annexture H for information only
Fault by others	**0.17**
Power Related Fault	**1**

ANNEX G

Key Performance Indicators

1. Performance objectives

Normal airport operational hours shall be **from 04:00 to 24:00** 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 in order for scheduled work not to interfere with airport operations

Minimum Staffing Schedule
The Contractor must always maintain the following minimum staff available and should price accordingly but not limited to the listed resources:

Designation	Quantity/Shift	Night Shift
Technician	3	22h00 -05h00
Technician's Assistant	3	22h00 -05h00

Designation	Quantity/Shift	Morning afternoon Shift
Site Manager	1	Working days 08:00 -17:000
Storeman	1	Working days 08:00 -17:000
Technician	2	05h00 – 14h00
Technician's Assistant		
Technician	2	14h00 – 22h00
Technician Assistant		

* The Contractor must maintain at all times the above **minimum** staff and should price accordingly but not limited to the listed resources.

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 scheduling 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.

Minimum qualifications of staff for duration of contract

Description of Key Resources	Minimum Qualifications/Registrations of Key resources	Experience of key resources
Lift Mechanic	• Completed Apprenticeship in the trade of Lift Mechanic • Electrical or Mechanical Trade test; or • Electrical/Mechanical N5	• Min 3 years experience post qualification in Maintenance or Installation of Lifts/Elevators/Passenger conveyors
Site Supervisor	• Completed Apprenticeship in the trade of Lift Mechanic • Electrical or Mechanical Trade test; or • Electrical/Mechanical N5 • Any Occupational Health and Safety Training Certificate	• Min 3 years experience post qualification in Maintenance or Installation of Lifts/Elevators/Passenger conveyors • Min 2 years supervisory experience • Minimum 2 years experience of OHS
Competent operator (Operative/Assistant)	Mechanical or Electrical N3 And Safety Training Certificate	• Min 1 year experience in maintenance of electrical or Mechanical Equipment • 2 Year experience on OHS
Storeman	Certificate In Storeman ship Or, Stock and store control certificate; And MS office training certificate	Min 3 years experience post qualification in stock management and or store management
Lift Inspector (On an Adhoc Basis)	Registered with ECSA as a Lift Inspector	• Min 1 year experience post registration as a Lift Inspector
Mechanical Engineer	SAQA Accredited BTech Mechanical **AND** ECSA registered PRTECH (Mechanical)	5 years but less than 10 years' experience post-BENG/BSC/BTECH qualification, demonstrate assessment of structural integrity of steel structures experience.
Control Engineer	SAQA Accredited BTECH Electronics/Mechatronics **AND** ECSA registered PRTECH (Electronics/Mechatronics)	5 years but less than 10 years' experience post-BENG/BSC/BTECH qualification, demonstrate controls Integration experience on at least one Multidisciplinary project, demonstrate any experience in control and instrumentation project.

Reference Requirement to be completed by Reference

2. Availability, mean time before failure and mean time to repair.

The Contractor must comply with the following minimum system performance benchmarks:

*The Period of review shall be Monthly.

Availability	Target
Elevators	99.5%

Description	Call Response time	Call Closure Time
Stops/General calls during normal airport hours	15min	45min
Unlocking Trapped Passengers from the Elevators	15min	30min
Breakdown requiring a field engineer	8 hours	24 hours
Breakdown requiring major repairs	8 hours	72 hours
% of planned maintenance completed per month	100%	

3. Emergency Response time

ACSA deems an emergency as a situation caused by unforeseen circumstance. This is only instances where:

- Delaying sourcing the required goods,
- Works or services will result in Loss of life or injury,
- Reputational harm,
- Financial losses,
- Legal consequences,
- Interruption of essential or
- Business services and
- Any other relevant consideration

Below are the some of the emergencies identified but not limited to the below list

Description	Call Response time	Call Closure Time
Stops/General calls during normal airport hours	15min	45min
Unlocking Trapped Passengers from the Elevators	15min	30min
Breakdown requiring a field engineer	8 hours	24 hours
Breakdown requiring major repairs	8 hours	72 hours
% of planned maintenance completed per month	100%	

4. Guarantees

The defect free period is defined as that period following completion of the work where no defect directly associated with the Contractors workmanship is detected.

Defect free liability period – preventative maintenance	The defect free period will be no less than the interval between preventative maintenance intervals.
Defect free liability period – corrective or breakdown maintenance	The defect free period will be no less than 90 days.
Defect free liability period – project work	The defect free period will be no less than 12 months.

There are no current (the time of this bid) warrantees and guarantees on the infrastructure to be maintained by the Contractor.

5. Assessments and Reviews

- Monthly assessment/review shall be done according to this NEC Term Service contract.
- Safety issues and file reviewed quarterly or as per Safety department frequency.
- Contract shall be Audited and Assessed the from time to time.
- The Contractor will be assessed and scored quarterly also through the ACSA supplier development system or any other ACSA system.

6. Low service damages

Notification of Low service damages

The Service Manager will notify the Contractor in writing of any Low service damages.

The Service Manager will also notify the Contractor of any claims directed and incurred by ACSA as a result of the Contractor failure of duties, **this will be for the account of the Contractor**.

The sources of the information shall be all reports and Audit reports which the infrastructure is subjected to(e.g. any authorised ACSA employees and any internal and external audits).

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

Low service damages tables
Progressive Punitive low service agreement which are entirely the Contractor's fault shall be applied as below:

	Low service damages Criteria	Low service damages amount
Response time	Noncompliance with response times	R10 000,00 per event
Closure duration	Noncompliance with closure duration times	R10 000,00 per event
Closure of corrective work orders	Noncompliance with closure times for corrective maintenance work orders	R2 000,00 per event
Closure of preventative maintenance work orders	All preventative maintenance work orders should be closed within 14 days of issue	R5 000,00 per event
System Availability as Measure by Oracle CMMS (IMCS)	Noncompliance with the system availability	R10 000,00 per system
Other Occupational Health and Safety Act 85 of 1993 which are criminal offences according to the OHS act	Termination after having followed the NEC early warning and risk reduction process	
There is consecutive Occupational Health and Safety Act 85 of 1993of the same offence/class	Termination after having followed the NEC early warning and risk reduction process	

Availability less than 91% for six consecutive months as measure by the IMCS system (which is the entirely the Contractor's fault) will lead to contract termination.

Emergency Response time

ACSA deems an emergency as a situation caused by unforeseen circumstance. This is only instances where:

- Delaying to source the required goods,
- Works or services will result in Loss of life or injury,
- Reputational harm,
- Financial losses,
- Legal consequences,
- Interruption of essential or
- Business services and
- Any other relevant consideration

Discretionary annual Contractor's performance review/assessment will be performed to consider the renewal of contract. Should the Contractor's performance deemed below satisfactory the contract will not be renewed upon contract anniversary, therefore the contract will be terminated.

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.

The Contractor shall take all reasonable actions to ensure that they facilitate successful implementation and execution of the CMMS. The Contractor shall before each anniversary date of the Contract investigate available CMMS data and report if savings can be achieved on the Contract for the next year. This may also include savings on the Contract monthly maintenance amount.

Internal and external factors

A list of some of the internal and external factors which may affect equipment SLAs / availability and are beyond the Contractor's control are listed in **Annex T.** In such an event the Contractor will not pay for low services damages which were caused by factors which were proven to be beyond the Contractor's control.

MAINTENANCE RECORD SHEETS

When maintenance is performed, record sheets must be completed and signed off by both the Technician and an ACSA representative.

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.**

ANNEX H

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)

This form is in C1.3 in this contract and must be filled in by the Contractor

ANNEX I

Minimum Maintenance Programme

The Tenderer shall include a suggested maintenance programme that must attempt to cover all requirements under this contract. The below list should be used as a minimum. The responsibility lies with the Contractor in ensuring compliance to OEM instructions

Legislative Records / Certificates and Maintenance records needed	Frequency of records
Annex A - Certificate of Commissioning acceptance test for electric lifts (SANS 1545-1)	• Before a people mover is put into use for the first time • After any modification has been effected
Annex A - Certificate of commissioning acceptance test for Elevators and passenger conveyors (SANS 1543)	
Annex B - Comprehensive report for Electric Lifts (SANS 1545-1)	• After a failure that could have endangered lives of users • Whenever there has been a change in the competent lift service provider • Every 24 months
Annex B - Comprehensive report for Elevators and Passenger conveyors (SANS 1543)	

Maintenance Schedule for Elevators

Monthly Maintenance	
Item	**Description**
1	Check for no admittance sign on motor room door
2	Check function of barrel bolt
3	Check function of motor room lock
4	Check function of motor room door
5	Check function of windows
6	Check function of ventilation
7	Check function of lights
8	Check function of diagrams
9	Check function of brake
10	Check function of main ropes
11	Check function of rope selector
12	Check function of rope governor
13	Check function of limits and overrun
14	Check function of safeties
15	Lubricate motor bearings
16	Lubricate pedestal bearings
17	Lubricate gearbox
18	Lubricate sheaves
19	Clean motor room
20	Check function of car safety edge
21	Check function of car door photocell
22	Check function of car alarm
23	Check function of car lights
24	Check function of car emergency light
25	Check function of car intercom
26	Check function of car push buttons
27	Check function of car indicator lamps
28	Check function of car direction arrows
29	Check function of car gongs
30	Check function of car handrails
31	Check function of car Egg crating
32	Check function of car levels

33	Check function of car inspection control
34	Check function of car inspection lights
35	Check function of car safeties
36	Lubricate car sheaves
37	Lubricate car oil lubricator
38	Clean car platform
39	Check function of shaft locks and door locking devices
40	Check function of shaft landing buttons
41	Check function of shaft indicator lamps
42	Check function of shaft direction arrows
43	Check function of shaft telephone plate
44	Check function of shaft gongs
45	Check function of shaft hinges
46	Check function of shaft closers
47	Check function of shaft handles
48	Check function of shaft beadings
49	Check function of shaft vision panels
50	Check function of shaft pit lights
51	Check function of shaft pit ladder
52	Check function of shaft pit switches
53	Lubricate hinges
54	Clean pit sheaves
55	Lubricate pit sheaves
56	Clean pit
57	All services and checks must be done in compliance with SANS 50081-1
58	Check counterweight

Quarterly Maintenance	
Item	**Description**
1	ELEVATOR/TYPE A CAR SERVICE
2	Check function/adjust/overhaul/renew/replace door hangers
3	Check function/adjust/overhaul/renew/replace door tracks
4	Check function/adjust/overhaul/renew/replace door sill
5	Check function/adjust/overhaul/renew/replace door slippers
6	Check function/adjust/overhaul/renew/replace door bolt
7	Check function/adjust/overhaul/renew/replace door brake
8	Check function/adjust/overhaul/renew/replace door chain or V-belt
9	Check function/adjust/overhaul/renew/replace door switches
10	Check function/adjust/overhaul/renew/replace RC motor
11	Check function/adjust/overhaul/renew/replace RC linkage
12	Check function/adjust/overhaul/renew/replace door setting
13	Check function/adjust/overhaul/renew/replace door pressure
14	Check function/adjust/overhaul/renew/replace PC unit
15	Check function/adjust/overhaul/renew/replace Bi-stable
16	Check function/adjust/overhaul/renew/replace magnetic switch
17	Check function/adjust/overhaul/renew/replace car suspension
18	Check function/adjust/overhaul/renew/replace car guide shoes
19	Check function/adjust/overhaul/renew/replace CWT suspension
20	Check function/adjust/overhaul/renew/replace CWT shoes
21	Check function/adjust/overhaul/renew/replace compensating chain
22	Check function/adjust/overhaul/renew/replace ropes and contact
23	Check function/adjust/overhaul/renew/replace safety gear
24	Check function/adjust/overhaul/renew/replace trailing cable
25	Clean ropes
26	Lubricate ropes
27	Clean car
28	Clean door drive
29	Lubricate door drive
ELEVATOR/TYPE B SHAFT SERVICE	
30	Check function/adjust/overhaul/renew/replace door hangers
31	Check function/adjust/overhaul/renew/replace door tracks
32	Check function/adjust/overhaul/renew/replace door sill
33	Check function/adjust/overhaul/renew/replace door slippers

34	Check function/adjust/overhaul/renew/replace tension weights
35	Check function/adjust/overhaul/renew/replace door hinges
36	Check function/adjust/overhaul/renew/replace door closers
37	Check function/adjust/overhaul/renew/replace landing doors
38	Check function/adjust/overhaul/renew/replace door cords
39	Check function/adjust/overhaul/renew/replace door chains
40	Check function/adjust/overhaul/renew/replace door contacts
41	Check function/adjust/overhaul/renew/replace limits and switches
42	Check function/adjust/overhaul/renew/replace guide brackets
43	Check function/adjust/overhaul/renew/replace landing board
44	Check function/adjust/overhaul/renew/replace pit switches
45	Check function/adjust/overhaul/renew/replace pit sheaves
46	Check function/adjust/overhaul/renew/replace slack rope contact buffers
47	Check function/adjust/overhaul/renew/replace compensating sheaves ropes and chains
48	Lubricate car counterweights guides
49	Lubricate landing doors
50	Clean landing tracks
51	Clean landing sills
52	Clean car tracks
53	Clean car sill
54	Clean hinges
55	Clean closers
ELEVATOR/TYPE D MOTOR ROOM SERVICE	
56	Check function/adjust/overhaul/renew/replace main switch
57	Check function/adjust/overhaul/renew/replace control voltage (Check reverse phase)
58	Check function/adjust/overhaul/renew/replace fuses
59	Check function/adjust/overhaul/renew/replace star delta
60	Check function/adjust/overhaul/renew/replace controllers
61	Check function/adjust/overhaul/renew/replace selectors
62	Check function/adjust/overhaul/renew/replace contactors
63	Check function/adjust/overhaul/renew/replace relays
64	Check function/adjust/overhaul/renew/replace contacts
65	Check function/adjust/overhaul/renew/replace commutators
66	Check function/adjust/overhaul/renew/replace brushes
67	Check function/adjust/overhaul/renew/replace slip rings
68	Check function/adjust/overhaul/renew/replace coupling and bearing play
69	Check function/adjust/overhaul/renew/replace thrust bearing (noise)

70	Check function/adjust/overhaul/renew/replace friction main sheave
71	Check function/adjust/overhaul/renew/replace starter centrifugal switch
72	Check function/adjust/overhaul/renew/replace limit switches
73	Check function/adjust/overhaul/renew/replace speed governor
74	Check function/adjust/overhaul/renew/replace hydraulic brake
75	Check function/adjust/overhaul/renew/replace gearless brake
76	Check function/adjust/overhaul/renew/replace piston oil seal
77	Check function/adjust/overhaul/renew/replace oil tank level
78	Lubricate selector gears
79	Lubricate reverse gear
80	Lubricate brake gear
81	Lubricate brake pivots
82	Lubricate motor bearings
83	Lubricate generator bearings
84	Lubricate sheaves
85	Lubricate diverters
86	Lubricate hydraulic brakes
87	Clean machine
88	Clean selector gears
89	Clean governor
90	Lubricate governor
91	Clean main motor
92	Clean all fans
93	All services and checks must be done in compliance with SANS 1545

Contract start-up proposal

The Tenderer shall include the start-up proposal for the maintenance contract. It must include timelines and the number of equipment (per category and total) that must be serviced per month. The total number of equipment is indicated in schedule of equipment (Annex F) or reflected below. The proposal must be such that monthly preventive maintenance hours are distributed evenly over the months of the year. The tenderer must develop a reasonable maintenance plan. The number of equipment to be serviced every month must be indicated for each category as well as the monthly total. The figure below is a typical plan for January which repeats over the rest of the year with the corresponding estimated number of equipment per month. The tenderer to issue a more detailed and accurate plan after award of tender.

Service category	Jan.	F	M	A	M	J	J	A	S	O	N	D	Units/month	
													Estimated	Proposed
M, Q, S, A	[redacted]												166.7	
M, Q, S	[redacted]												166.7	
M, Q	[redacted]												333.3	
M	[redacted]												1333.3	
Total													2,000	

M= Monthly service, Q=Quarterly service, S= Semi-annual service, A=

Annual service M, Q, S, A: Equipment that undergo all four services in a

month
M, Q, S: Equipment that undergo three services in a month
M, Q: Equipment that undergo
two services in a month
M: Equipment that undergo
one service in a month

The tenderer must also show on the plant his resources (e.g. John, Peter, Abe, etc.) allocation to complete each category of service. It is assumed 20 working days per month, 7 working hours per day and one unit serviced per one hour. Clearly explain the plan and show how objectives will be achieved. Please ensure a same resource is not used where tasks that overlap. Show start and end dates of each category of service.

ANNEX J (Contractor to fill in)

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 the Employer. The Employer 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 (the Employer's) Environmental Policy shall be communicated, comprehended and implemented by all appointed Contractor staff.
Storm water, Soil and Groundwater Pollution	• No solid or liquid material may be permitted to contaminate or potentially contaminate storm water, soil or groundwater resources. • Any pollution that risks contamination of these resources must be cleaned-up immediately. Spills must be reported to the Employer immediately. Contractors shall supply their own suitable clean-up materials where required. • Washing, maintenance and refuelling of equipment shall only be allowed in designated service areas on the Employer 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.
Air Pollution	• Dust: Dust resulting from work activities that could cause a nuisance to employees or the public shall be kept to a minimum. • 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 Management	• 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. • Contractors must keep on file: 1. The name of the contracting waste company 2. Waste disposal site used 3. Monthly reports on quantities – separated into general, hazardous and recycled 4. Maintained file of all Waste Manifest Documents and Certificates of

	Safe Disposal 5. Copy of waste permit for disposal site This information must be available during audits and inspections.
Handling & Storage of Hazardous Chemical Substances (HCS)	• All HCS shall be clearly labelled, stored and handled in accordance to Materials Safety Data Sheets. • Materials Safety Data Sheets shall be stored with all HCS. • All spillages of HCS must be cleaned-up immediately and disposed of as hazardous waste. (HCS spillages must be reported to the Employer immediately). • 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	the Employer 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 & Awareness	The conditions outlined in this permit shall be communicated to all Contractors and their employees prior to commencing works at the airport.

Low Service Damages

Low service damages shall be imposed by the Employer 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 low service damages to be imposed. The Contractor shall take the necessary steps (e.g. training/remediation) to prevent a recurrence of the infringement and shall advise the Employer accordingly. The Contractor is also advised that the imposition of low service damages does not replace any legal proceedings the Council, authorities, landowners and/or members of the public may institute against the Contractor.

Low service damages shall be between R 200.00 and R 20,000.00, depending upon the severity of the infringement. The decision on how much low service damages to impose will be made by ACSA's (the Employer) Airport Environmental Management Representative in consultation with the Airport Manager or his/her designate and will be final. In addition to the low service damages, the Contractor shall be required to make good any damage caused due to the infringement at his/her own expense.

I, _____ (name & surname) of _____

_____ (company) agree to the above conditions and acknowledge the Employer's right to impose low service damages should I or any of my employees or sub-Contractors fail to comply with these conditions.

Signed: _____ on this date: _____ (dd/mm/yyyy)

at: _____ (airport name).

ANNEX K

Maintenance of Elevators Spares List

To be provided to contractor (upon award)

ANNEX L

ACSA maintenance procedure for Elevators

- Available upon request from the ACSA service manager

ANNEX M

ACSA IMC procedure for call out and work orders

Available upon Request from the ACSA service manager

ANNEX N

Internal and external factors

Below is a list of internal and external factors which may affect equipment availability and are beyond the Contractor's control:

	Type	Comment
External resources	Utilities •Water •Electricity •Gas •IT Support and other interfaces outside the Contractor battery limit	-No impact to reliability/Maintainability. -It Impact on availability from operations view
External causes	•Outside Operating conditions/parameters •Operator fault/incorrect operation, consider shifting the risk to the Service provider by giving him responsibility to support Operations/Operators •Damage by others(users and Third parties) i.e. Elevator doors •Incorrect use •Foreign material is system	-No impact to reliability/Maintainability. -Impact on availability from operations view This are some of the occurrences that may not be considered the Normal Operating conditions
Other	•Lack of information/Drawings •Lack of access due to no fault of the Contractor after they have requested acess timeosly •Equipment's under Projects •Other factors that can be proven that was beyond the Contractor's fault	
Spares	Availability of spares (if the spares are not under the control of the Service provider to the limit of the budget)	-Affect Maintainability

	Typically: It is the responsibility of the Client to ensure adequate administration and re-order spares timely, It is the responsibility of the service provider to ensure that the stores administration is done and minimum stock levels are adhered to, the request to buy spare are replenished are done on time intime	No impact on service provider. The Risk is not sitting with a single owner

ANNEX O

ACSA Mechanical Standardised Minimum: legal requirements and minimum competency requirements

ANNEX P

ACSA Inventory procedure

Available upon Request from the ACSA service manager

ANNEX Q

Detail Technical specification

1 Minimum Specifications for people Lifts

The minimum lift specifications for airport and associated buildings shall be as follows:

Application type:	Heavy Duty
Minimum starts/hour:	180
Machine room less:	Yes
Regenerative drive:	Yes
Gearless Traction drive:	Yes Group control system for
bank of lifts:	Yes Minimum lift lobby
width:	3m Separate power supply for
lift lights:	Yes Car lighting
type:	LED
Car ventilation and air-conditioning unit:	Yes Speed: 1 to 5m/s
Min rated capacity:	1200kg (16 persons)
Power:	380-400V/ 50Hz
Minimum motor efficiency class:	IE2
Motor IP Rating:	IP55
Elevator recall and interface with Fire Detection	Yes
Essential power:	If lift shaft > 22m
Operating Hours per day:	18-20hrs
Availability (To be proven over a 1yr post installation)	99.5%
Landing plate:	Non-slip
Side cladding:	Stainless Steel or Glass
Car Interior design:	Generate 3 options for approval
Elevator Logs and trends:	Yes Link to site BMS and web
application:	Yes Minimum logs and trends

retention period:	30 days USB/Computer
download capability of logs and trends	Yes
Smart Energy Metering:	Yes
People counting:	Yes
Stainless steel door panel:	3mm
Car call button and display:	1 per every 2 lifts
Intercom:	Yes
“Call help” button or electronic Visual display communication system for deaf people:	Yes
Automated floor sound announcements:	Yes
Lower pit water ultrasonic level monitor with pump:	Yes, where there is possibility of pit flooding
Pit liquid waterproofing:	Applicable in high water table areas
Minimum pit depth:	2m
Pit access ladder:	Yes
Status notification and viewing via mobile phone:	Yes
Minimum Warranty Period:	1 Calendar Year

2 Additional Minimum Specifications for goods Lifts

In addition to applicable specifications in clause 5.4 above, the following shall apply for goods lifts:

Minimum internal car dimensions:	L x W x H (2.5 x 2.5 x2.5m)
Time delay for closing of doors:	10sec
Chequer plate at landings:	Yes
Minimum number of lifts serving floors:	2
Cladding:	Stainless steel with protective cladding

ANNEX R

Schedule of Equipment to be replaced

Labour ID	Description	Qty	OEM	Serving areas
JE 9281	L2A	1	Schindler	Duty free
JE 9285	L2B	1	Schindler	Duty free
01/L1802	L15A	1	Kone	TA Departure
01/L1803	L15B	1	Kone	TA Departure
Labour ID	**Description**	**Qty**	**OEM**	**Serving areas**
01/2824	L4A	1	Schindler	Atrium
01/2818	L4B	1	Schindler	Atrium
01/2817	L4C	1	Schindler	Atrium
Labour ID	**Description**	**Qty**	**OEM**	**Serving areas**
01/L554	L5A	1	OTIS	TB Arrival
01/L555	L5B	1	OTIS	TB Arrival
01/L552	L4A		OTIS	TB Departure
01/L553	L4B		OTIS	TB Departure
Labour ID	**Description**	**Qty**	**OEM**	**Serving areas**
01/L430	L37 - Firemans	1	OTIS	TA
01/L246	FL29	1	Mitsubishi	Cargo
01/L247	FL30	1	Mitsubishi	Cargo
01/L248	FL31	1	Mitsubishi	Cargo