



AIRPORTS COMPANY SOUTH AFRICA SOC LIMITED

**PROJECT NAME AND NUMBER: ELEC MINIATURE SUBSTATION
UPGRADE**

**TITLE OF PROJECT: RFQ27847 MINISUBSTATION
UPGRADE**

NEC 3: ENGINEERING AND CONSTRUCTION CONTRACT (ECC)

Between AIRPORTS COMPANY SOUTH AFRICA SOC LIMITED

Applicable at KING SHAKA INTERNATIONAL AIRPORT
(Registration Number : 1993/004149/30)

and

(Registration Number : _____)

**For MINISUBSTATION UPGRADE AT KING SHAKA
INTERNATIONAL AIRPORT**

Contents:	No of pages
Part C1 Agreements & Contract Data	[•]
Part C2 Pricing Data	[•]
Part C3 Scope of Works	[•]
Part C4 Site Information	[•]

Part C1: Agreements and Contract Data

C1.1: Form of Offer and Acceptance

OFFER

The Employer, identified in the Acceptance signature block, has solicited offers to enter into a contract for the procurement of: MINISUBSTATION UPGRADE AT KING SHAKA INTERNATIONAL AIRPORT

The tenderer, identified in the Offer signature block, has examined the documents listed in the Tender Data and addenda thereto as listed in the Returnable Schedules, and by submitting this Offer has accepted the Conditions of Tender.

By the representative of the tenderer, deemed to be duly authorised, signing this part of this Form of Offer and Acceptance the tenderer offers to perform all of 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 INCLUSIVE OF VAT IS:

(in words)
..... Rands;

(in figures) R.....

THE OFFERED PRICES ARE AS STATED IN THE PRICING SCHEDULE

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 including the Schedule of Deviations (if any) to the tenderer before the end of the period of validity stated in the Tender Data, or other period as agreed, whereupon the tenderer becomes the party named as the **Contractor** in the conditions of contract identified in the Contract Data.

Signature(s)

Name(s)

Capacity

**For the
Bidder:**

Name &
signature of
witness

.....
(Insert name and address of
organisation)

.....
Date

ACCEPTANCE

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

The terms of the contract, are contained in:

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

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

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

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

Notwithstanding anything contained herein, this agreement comes into effect on the date when the tenderer receives one fully completed original copy of this document, including the Schedule of Deviations (if any). Unless the tenderer (now **Contractor**) within five working days of the date of such receipt notifies the Employer in writing of any reason why he cannot accept the contents of this agreement, this agreement shall constitute a binding contract between the Parties.

Signature(s)

Name(s)

Capacity

.....
.....
.....

**for the
Employer**

Name & signature of witness	<hr/>	
	<i>(Insert name and address of organisation)</i>	Date
	<hr/>	<hr/>

Schedule of Deviations

1 Subject .....	.....
Details .....	.....
.....
.....
.....
2 Subject .....	.....
Details .....	.....
.....
.....
.....
3 Subject .....	.....
Details .....	.....
.....
.....
.....

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

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

For the Employer

For the Bidder

Signature (s)	.....	.....
Name (s)	.....	.....
Capacity	.....	.....
Name and Address	Airports Company South Africa SOC Limited King Shaka International Airport, La Mercy	.....
Name & Signature of witness	<i>(Insert name and address of organisation)</i>	<i>(Insert name and address of organisation)</i>
Date	.....	.....

Part C1.2a Contract Data

Part one – Data provided by the *Employer*

The Conditions of contract are selected from the NEC3 Engineering and Construction Contract, April 2013.

Each item of data given below is cross-referenced to the NEC3 Engineering Construction Contract which requires it.

Clause	Statement	Data
1	General	
	The <i>conditions of contract</i> are the core clauses and the clauses for Main Option	
	Main Option	B: Priced contract with Bill of Quantities
	Dispute resolution Option	W1: Dispute resolution procedure
	Secondary Options (incorporating amendments)	X2: Changes in the law X7: Delay damages X13: Performance Bond X16: Retention X18: Limitation of liability Z: Additional conditions of contract of the NEC3 Engineering and Construction Contract, April 2013
10.1	The <i>Employer</i> is (Name)	Airports Company South Africa SOC Limited, Applicable King Shaka International Airport
	Address	Airports Company South Africa SOC Limited King Shaka International Airport, La Mercy
	Telephone	(032) 436 6000
	Fax	(032) 436 6672
10.1	The <i>Project Manager</i> is	Sandile Zwane

Address	1 Canelands Drive, Administration Office MSO Building King Shaka International Airport La Mercy 4407
Telephone	(032) 436 6051
E-mail address	Sandile.Zwane@airports.co.za

10.1	The <i>Supervisor</i> is	Mluleki Hlengwa
	Address	1 Canelands Drive, Administration Office MSO Building King Shaka International Airport La Mercy 4407
	Telephone	(032) 436 6052
	Fax	
	Email	Mluleki.Hlengwa@airports.co.za
11.2	The <i>works</i> are	MINISUBSTATION UPGRADE AT KING SHAKA INTERNATIONAL AIRPORT
11.2	The following matters will be included in the Risk Register	<ul style="list-style-type: none"> • Availability of As Built information • Access to Site • Site Constraints and Constructability • Existing Services • Delay in supply of material and/or equipment • Progress of the works against the program • Travelling public and ACSA stakeholders • Working on the live Runway and Taxiways
11.2	The <i>Works Information</i> is in	Part C3 'Scope of Works' section of this contract
11.2	The <i>Site Information</i> is in	Part C4 'Works Information' section of this contract
11.2	The <i>boundary of the site</i> is	Landside and Airside Area
12.2	The <i>law of the contract</i> is the law of	the Republic of South Africa
13.1	The <i>language of this contract</i> is	English
13.3	The <i>period of reply</i> is	Seven (7) days

3 Time		
31.2	The <i>starting date</i> is	TBC
11.2	The <i>completion date</i> is	TBC
30.1	The <i>access date</i> is	TBC
31.1	The <i>Contractor</i> submits a first (preliminary) programme with the tender by the tender closing date	On Tender closing date
32.2	The <i>Contractor</i> submits revised programmes at intervals no longer than	Four (4) weeks
35.1	The <i>Employer</i> is not willing to take over the works before the <i>completion date</i>	The <i>Employer</i> and Others will have access to the <i>works</i> during construction or prior to completion. Such access by the <i>Employer</i> and Others shall not relieve the <i>Contractor</i> from liability for the completion of the <i>works</i> in accordance with the Works Information and in terms of this contract.
4 Testing and Defects		
42.2	The <i>defects date</i> is	Twelve (12) months after Completion of the whole of the <i>works</i>
43.2	The <i>defects correction period</i> is	Two (2) weeks
5 Payment		
50.1	The <i>assessment interval</i> is	Four (4) weeks
50.1	The <i>currency of this contract</i> is the	South African Rand
51.2	The period within which payment is made is	Four (4) weeks
51.4	The <i>interest rate</i> is	The prime lending rate of the Nedbank Bank. as determined from time to time
6 Compensation events		
60.1	The <i>weather measurements</i> to be recorded for each calendar month are	the cumulative rainfall (mm) the number of days with rainfall more than 10 mm the number of days with minimum air temperature less than 0 degrees Celsius
60.1	The place where weather is to be recorded (on the Site) is	At the Construction Site Office and the records to be kept on site in a file clearly marked for this purpose

60.1	Assumed values for the ten year return <i>weather data</i> for each <i>weather measurement</i> for each calendar month are	Month	Days	Month	Days
		January	1	July	4
		February	1	August	3
		March	2	September	2
		April	2	October	2
		May	3	November	2
		June	3	December	1
7	Title	No data required for this section of the <i>conditions of contract</i>			
8	Risks and Insurance				
84.1	The <i>Employer</i> provides these insurances	Refer to the Insurance Clauses which is attached at the end of the Contract Data Part C1.5			
84.2	The <i>Contractor</i> provides the insurance stated in	The Insurance Clauses which is attached at the end of the Contract Data. The insurances are in the joint names of the Parties and provide cover for events which are at the Contractor's risk from the starting date until the Defects Certificate or a termination certificate has been issued.			
	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			
9	Termination	No data required for this section of the <i>conditions of contract</i>			
10	Data for Main Options				
B	Priced contract with Bill of Quantities	Refer to Contract Data Part C2: Pricing Data, Bill of Quantities as per tender submission			
11	Data for Option W1				
W1.1	The <i>Adjudicator</i> is	The person appointed jointly by the parties from the list of adjudicators contained below			
W1.2	The <i>Adjudicator nominating body</i> is	The current Chairman of Johannesburg Advocate's Bar Council			
W1.4	The <i>tribunal</i> is	Arbitration			
W1.4	If the <i>tribunal</i> is arbitration, the arbitration procedure is	The <i>arbitration procedure</i> is set out in The Rules for the Conduct of Arbitrations 2013 Edition, 7th Edition, published by The Association of Arbitrators, (Southern Africa)			
W1.4	The place where arbitration is to be held is	Johannesburg, South Africa.			

W1.4	The person or organisation who will choose an arbitrator	The <i>Arbitrator</i> is the person selected by the Parties as and when a dispute arises in terms of the relevant Z Clause, from the Panel of Arbitrators provided under the relevant Z clause if the arbitration procedure does not state who selects an arbitrator. The Arbitrator nominating body is the Chairman of the Johannesburg Advocates Bar Council.
12	Data for Secondary Option Clauses	
X7	Delay Damages	
	Delay damages of the <i>works</i> are	Amount per day is 0.05%, to the maximum of 10% of the Contract value
X13	Performance bond	
X13.1	The amount of the performance bond is	10% of the contract value. Pro-forma draft of a performance bond to be used is attached to this contract (Refer to Contract Data Part C1.3).
X16	Retention	
X16.1	The <i>retention percentage</i> is	5% of the Contract value.
X18	Limitation of Liability	
X18.1	The <i>Contractor's</i> liability to the <i>Employer</i> 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 <i>Contractor's</i> liability to the <i>Employer</i> for loss of or damage to the <i>Employer's</i> property is limited to	The total of the Prices
X18.3	The <i>Contractor's</i> total liability to the <i>Employer</i> for defects due to his design which are not listed on the Defects Certificate is limited to	The total of the Prices

X18.4	The <i>Contractor's</i> total liability to the <i>Employer</i> for all matters arising under or in connection with this contract, other than excluded matters, is limited to	The <i>Contractor's</i> total direct liability to the <i>Employer</i> 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.
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The e excluded matters are amounts payable by the Contractor as stated in this contract for

- Loss of or damage to the Employer's property,
- Delay damages,
- Defects liability,
- Insurance liability to the extent of the Contractor's risks
- loss of or damage to property (other than the *works*, Plant and Materials),
- death of or injury to a person;
- damage to third party property; and
- infringement of an intellectual property right

Z	The <i>Additional conditions of contract</i> are	Z1 – Z20
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	Amendments to the Core Clauses
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Z1	Interpretation of the law
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Z1.1	Add to core clause 12.3: Any extension, concession, waiver or relaxation of any action stated in this contract by the Parties, the <i>Project Manager</i> , the <i>Supervisor</i> , or the <i>Adjudicator</i> 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.
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Z2	Providing the Works:
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Z2.1	Delete core clause 20.1 and replace with the following: The <i>Contractor</i> provides the works in accordance with the Works Information and warrants that the results of the Works, when complete, shall be fit for their intended purpose
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Z3	Other responsibilities:
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	Add the following at the end of core clause 27:
Z3.1	The <i>Contractor</i> shall have satisfied himself, prior to the Contract Date, as to the completeness, sufficiency and accuracy of all information and drawings provided to him as at the Contract Date
Z3.2	The <i>Contractor</i> shall be responsible for the correct setting out of the <i>Works</i> in accordance with the original points, lines and levels stated in the <i>Works</i> Information or notified by the <i>Project Manager</i> , <i>Supervisor</i> or the <i>Employer</i> . Any errors in the positioning of the <i>Works</i> shall be rectified by the <i>Contractor</i> at the <i>Contractor's</i> own costs.

Z4	Extending the defects date:
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	Add the following as a new core clause 46:
Z4.1	If the <i>Employer</i> cannot use the <i>works</i> due to a Defect, which arises after Completion and before the <i>defects date</i> , the <i>defects date</i> is delayed by a period equal to that during which the <i>Employer</i> , due to a Defect, is unable to use the <i>works</i>
Z4.2	If part of the <i>works</i> is replaced due to a Defect arising after Completion and before the <i>defects date</i> , the <i>defects date</i> for the part of the <i>works</i> which is replaced is delayed by a period equal to that between Completion and the date by when the part has been replaced
Z4.3	The <i>Project Manager</i> notifies the <i>Contractor</i> of the change to a <i>defect date</i> when the delay occurs. The period between Completion and an extended <i>defects date</i> does not exceed twice the period between Completion and the <i>defects date</i> stated in the Contract Data

Z5 Termination

Z5.1	Add the following to core clause 91.1, at the second main bullet, fifth sub-bullet point, after the words “assets or”: “business rescue proceedings are initiated or steps are taken to initiate business rescue proceedings”.
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Amendment to the Secondary Option Clauses

Z6 Performance Bond

Z6.1	Amend the first sentence of clause X13.1 to read as follows: The <i>Contractor</i> gives the <i>Employer</i> an unconditional, on-demand performance bond, provided by a bank which the <i>Project Manager</i> and the <i>Employer</i> have accepted, for the amount stated in the Contract Data and in the form set out in Annexure C.ii of this Contract Data.
Z6.2	Add the following new clause as Option X13.2: The <i>Contractor ensures</i> that the performance bond is valid and enforceable until the end of the <i>contract period</i> . If the terms of the performance bond specify its expiry date and the end of the <i>contract period</i> does not coincide with such expiry date, four weeks prior to the said expiry date, the <i>Contractor</i> extends the validity of the performance bond until the end of the <i>contract period</i> . If the <i>Contractor</i> fails to so extend the validity of the performance bond, the <i>Employer</i> may claim the full amount of the performance bond and retain the proceeds as cash security

Z7 Limitation of liability:

	Insert the following new clause as Option X18.6:
Z7.1	The <i>Employer's</i> liability to the <i>Contractor</i> for the <i>Contractor's</i> indirect or consequential loss is limited to R0.00
Z7.2	Notwithstanding any other clause in this contract, any proceeds received from any insurances or any proceeds which would have been received from any insurances but for the conduct of the <i>Contractor</i> shall be excluded from the calculation of the limitations of liability listed in the contract

Additional Z Clauses

Z8 Cession, delegation and assignment

Z8.1	The <i>Contractor</i> shall not cede, delegate or assign any of its rights or obligations to any person without the written consent of the <i>Employer</i> , which consent shall not be unreasonably withheld. This clause shall be binding on the liquidator/business rescue practitioner /trustee (whether provisional or not) of the <i>Contractor</i>
Z8.2	The <i>Employer</i> may cede and delegate its rights and obligations under this contract to any person or entity

Z9 Joint and several liability

- Z9.1** If the *Contractor* constitutes a joint venture, consortium or other unincorporated grouping of two or more persons, these persons are deemed to be jointly and severally liable to the *Employer* for the performance of the Contract.
- Z9.2** The *Contractor* shall, within 1 week of the Contract Date, notify the *Project Manager* and the *Employer* of the key person who has the authority to bind the *Contractor* on their behalf.
- Z9.3** The *Contractor* does not materially alter the composition of the joint venture, consortium or other unincorporated grouping of two or more persons without prior written consent of the *Employer*.

Z10 Ethics

- Z10.1** The *Contractor* undertakes:
- Z10.1.1** not to give any offer, payment, consideration, or benefit of any kind, which constitutes or could be construed as an illegal or corrupt practice, either directly or indirectly, as an inducement or reward for the award or in execution of this contract;
- Z10.1.2** 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.
- Z10.2** The *Contractor's* breach of this clause constitutes grounds for terminating the *Contractor's* obligation to Provide the Works or taking any other action as appropriate against the *Contractor* (including civil or criminal action). However, lawful inducements and rewards shall not constitute grounds for termination.
- Z10.3** If the *Contractor* is found guilty by a competent court, administrative or regulatory body of participating in illegal or corrupt practices, including but not limited to the making of offers (directly or indirectly), payments, gifts, gratuity, commission or benefits of any kind, which are in any way whatsoever in connection with the contract with the *Employer*, the *Employer* shall be entitled to terminate the contract in accordance with the procedures stated in core clause 92.2. the amount due on termination is A1.

Z11 Confidentiality

- Z11.1** 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 *Project Manager* or the *Employer*, which consent shall not be unreasonably withheld.
- Z11.2** If the *Contractor* is uncertain about whether any such information is confidential, it is to be regarded as such until otherwise notified by the *Project Manager*.
- Z11.3** This undertaking shall not apply to –
- Z11.3.1** Information disclosed to the employees of the *Contractor* for the purposes of the implementation of this agreement. The *Contractor* undertakes to procure that its employees are aware of the confidential nature of the information so disclosed and that they comply with the provisions of this clause;

- Z11.3.2** Information which the *Contractor* is required by law to disclose, provided that the *Contractor* notifies the *Employer* prior to disclosure so as to enable the *Employer* to take the appropriate action to protect such information. The *Contractor* may disclose such information only to the extent required by law and shall use reasonable efforts to obtain assurances that confidential treatment will be afforded to the information so disclosed;
- Z11.3.3** Information which at the time of disclosure or thereafter, without default on the part of the *Contractor*, enters the public domain or to information which was already in the possession of the *Contractor* at the time of disclosure (evidenced by written records in existence at that time);
- Z11.4** The taking of images (whether photographs, video footage or otherwise) of the *works* or any portion thereof, in the course of Providing the Works and after Completion, requires the prior written consent of the *Project Manager*. All rights in and to all such images vests exclusively in the *Employer*
- Z11.5** The *Contractor* ensures that all his Subcontractors abide by the undertakings in this clause.

Z12 *Employer's Step-in rights*

- Z12.1** If the *Contractor* defaults by failing to comply with his obligations and fails to remedy such default within 2 weeks of the notification of the default by the *Project Manager*, the *Employer*, without prejudice to his other rights, powers and remedies under the contract, may remedy the default either himself or procure a third party (including any subcontractor or supplier of the *Contractor*) to do so on his behalf. The reasonable costs of such remedial works shall be borne by the *Contractor*
- Z12.2** 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 *Project Manager* to achieve this end.

Z13 *Liens and Encumbrances*

- Z13.1** The *Contractor* keeps the Equipment used to Provide the Services free of all liens and other encumbrances at all times. The *Contractor*, vis-a-vis the *Employer*, waives all and any liens which he may from time to time have, or become entitled to over such Equipment and any part thereof and procures that his Subcontractors similarly, vis-a-vis the *Employer*, waive all liens they may have or become entitled to over such Equipment from time to time

Z14 *Intellectual Property*

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

- Z14.4** 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
- Z14.5** The *Contractor* shall indemnify and hold the *Employer* harmless against and from any claim alleging an infringement of IP rights ("**the claim**"), which arises out of or in relation to:
- Z14.5.1** the *Contractor's* design, manufacture, construction or execution of the Works
- Z14.5.2** the use of the *Contractor's* Equipment, or
- Z14.5.3** the proper use of the Works.
- Z14.6** The *Employer* shall, at the request and cost of the *Contractor*, assist in contesting the claim and the *Contractor* may (at its cost) conduct negotiations for the settlement of the claim, and any litigation or arbitration which may arise from it.

Z16 Dispute resolution:

Z16.1 Appointment of the Adjudicator

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

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

Panel of Adjudicators

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

Z16.2 Appointment of the Arbitrator

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

Panel of Arbitrators

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

Z17 Notification of a compensation event

- Z17.1** Delete “eight weeks” in clause 61.3 and replace with “four weeks”. Delete the words “unless the event arises from the Project Manager or the Supervisor giving an instruction, issuing a certificate, changing an earlier decision or correcting an assumption.”

Z18 BBEE Certificate

- Z18.1** The *Contractor* shall be expected to annually present a compliant BEE Certificate. Failure to do adhere to these requirements shall be considered a material breach of the conditions of this Contract, the sanction for which may be a cancellation of this Contract.

Z19 Communication

- Z19.1** **Add a new Core Clause** 14.5 and 14.6 to read as follows:
The *Project Manager* requires the written consent of the Employer if an action will result in a change to the design, scope, and Works information that is 5% or more
- Z19.2** The *Project Manager* requires the written consent of the Employer if an action will result in the Completion Date being extended by more than 30 days.

Z20 Delegation

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

- Z20.1** As part of this contract the *Contractor* acknowledge that it (mandatory) is an employer in its own right with duties as prescribed in the Occupational Health and Safety Act No 85 of 1993 as amended and agree to ensure that all work being performed, or Equipment, Plant and Materials being used, are in accordance with the provisions of the said Act, and in particular with regard to the Construction Regulations

PART C1.2b CONTRACT DATA

PART TWO – DATA PROVIDED BY THE *CONTRACTOR*

Clause	Statement	Data
10.1	The Contractor is (Name): Address: Telephone No. Fax No.	
11.2	The <i>working areas</i> are	Only the Site Area. See C4 'Site Information'
24.1	The <i>Contractor's Key people</i> are:	CV's to be appended to Tender Schedule as per Tender Submission
	Name:	
	Job:	
	Responsibility:	
	Qualifications:	
	Experience:	
	Name:	
	Job:	
	Responsibility:	
	Qualifications:	
	Experience:	
	Name:	
	Job:	
	Responsibility:	
	Qualifications:	
	Experience:	

Name:

Job:

Responsibility:

Qualifications:

Experience:

11.2	The <i>completion date</i> is	TBC
11.2	The following matters will be included in the Risk Register	<ul style="list-style-type: none">• Existing Services• Access to Site• Delay in supply of material and/or equipment• Progress of the works against the program• Travelling public and ACSA stakeholders• Working on the live Runway and Taxiways
11.2	The <i>Works Information</i> is in	Part C3 'Scope of Works' section of this contract
31.1	The programme identified in the	Programme Schedule as per tender submission

Part C1: Agreements and Contract Data

C1.3: Form of Guarantee

PRO FORMA FOR PERFORMANCE BOND

PERFORMANCE BOND

[TO BE REPLICATED ON BANK'S LETTERHEAD]

Brief description of contract.....

Name and address of Beneficiary.....

..... (whom the contract defines as the Contractor).

We, the undersigned and..... in our capacities as Guarantor's..... of (**Registration Number:**) (hereinafter called "the Bank") have been informed that hereinafter called the 'Principal') is your Contractor under such contract, which requires him to obtain an irrevocable, unconditional performance security.

At the request of the Principal, we(name of bank) hereby irrevocably undertake to pay you, the Employer, any sum or sums not exceeding in total the amount of(the "Guaranteed Amount") upon receipt by us of your first written demand stating that such an amount (or lesser amount) as may be claimed is due and payable to the Employer.

This guarantee constitute an irrevocable, unconditional, non-negotiable and non-transferable undertaking to pay in accordance with the above, subject to the proviso that this Letter will not be interpreted as extending the Bank's liability to anything more than the Guaranteed Amount.

Notwithstanding anything to the contrary herein contained, the Bank's obligation shall be construed as principal and not as accessory to the contract and shall not be delayed or discharged by the fact that a dispute exists between the Employer and the Contractor.

We undertake to pay you such Guaranteed Amount upon receipt by us, within such period of 14 days, of your first written demand stating that such an amount (or lesser amount) as may be claimed is due and payable to the Employer.

The guarantee shall be governed by and construed in accordance with the laws of the Republic of South Africa

Signed at _____ on _____ 20....

For:

Registration Number:

Name & Position

As witnesses:

1. _____

2. _____

PART C1: AGREEMENTS AND CONTRACT DATA

C1.4: 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 Organisation:
AIRPORTS COMPANY SOUTH AFRICA KING SHAKA INTERNATIONAL AIRPORT
Physical Address: Airport Company South Africa 1 Canelands Drive, Administration Office MSO Building King Shaka International Airport La Mercy 4407

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. "Mandatory" 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 Mandatories (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 Mandatories 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 Mandatory 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 Mandatory 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 Mandatory undertakes to comply with:

INSURANCE

1. The Mandatory 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 Mandatory 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 Mandatory 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 OHSAct 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 user shall be made by the Mandatary and/or their employees and or their subcontractors of any of the Client's machinery/article/substance/plant/personal protective equipment without prior written approval.
12. The Mandatary shall ensure that work for which the issuing of permit is required shall not be performed prior to the obtaining of a 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,

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

Mandatory – WCA/ Federated Employers Mutual No.....

Expiry date

SIGNATURE ON BEHALF OF MANDATARY

(Warrant his authority to sign)

DATE

SIGNATURE ON BEHALF OF THE CLIENT
AIRPORT COMPANY SOUTH AFRICA

DATE

PART C1: AGREEMENTS AND CONTRACT DATA

C1.5: ACSA INSURANCE CLAUSES

INSURANCE CLAUSES FOR CAPEX PROJECTS

The insurance clauses in this document should be extracted and attached to tender documents and to contracts.

SECTION A: DEFINITIONS

Landside refers to:

- Areas of the airport before the security points, and
- The restricted area beyond the security points but, within the perimeter of gatehouses, passenger terminals and cargo buildings

Airside refers to:

- The Apron / manoeuvring areas
- Area within the airside boundary/perimeter fence, excluding the internal areas of the passenger terminals, perimeter gatehouses and cargo building.

SECTION B: INSURANCE CLAUSES

1. Insurance requirements for contracts with a value below R50million on the LANDSIDE

1.1 Contract Works

- With regards to contract works claims, the contractor/consultant is responsible for a deductible (excess) of R250 000.
- Contractors / consultants may re-insure the deductible

1.2 Public Liability

- In the event of a claim against the contractor / consultant for 3rd party property damage the contractor / consultant will be responsible for a deductible (excess) of R275 000
- In the event of a claim against the contractor / consultant for removal of lateral support, the contractor / consultant will be responsible for a deductible (excess) of R500 000
- Contractors / consultants may re-insure the deductibles

1.3 Professional Indemnity

- All consultants are responsible for Professional Indemnity cover of R5million
- Contractors who have a material design element, excluding typical P & G related work, as part of their scope, are responsible for Professional Indemnity cover of R5million
- In the event of a claim above R5million, the ACSA PI cover will kick in for the amount in excess of R5m.
- Proof of cover in the form of a certificate of insurance should be provided to ACSA before a contract is signed between ACSA and the contractor and/or consultant.

2. Insurance requirements for contracts below R50million on the AIRSIDE

2.1 Contract Works

- With regards to contract works claims, the contractor / consultant is responsible for a deductible (excess) of R250 000.
- Contractors / consultants may re-insure the deductible

2.2 Public Liability

- In the event of a claim brought against the contractor / consultant for 3rd party property damage the contractor / consultant will be responsible for a deductible (excess) of R525 000
- In the event of a claim brought against the contractor / consultant for removal of lateral support, the contractor / consultant will be responsible for a deductible (excess) of R750 000
- In the event of a claim brought against the contractor / consultant for damage to aircraft, the contractor / consultant will be responsible for a deductible (excess) of R750 000
- Contractors / consultants may re-insure the deductibles

2.3 Professional Indemnity

- All consultants are responsible for Professional Indemnity cover of R5million
- Contractors who have a material design element, excluding typical P & G related work, as part of their scope, are responsible for a Professional Indemnity cover of R5million.
- In the event of a claim above R5million, the ACSA PI cover will kick in for the amount in excess of R5million.
- Proof of cover in the form of a certificate of insurance should be provided to ACSA before a contract is signed between ACSA and the contractor and/or consultant.

3. Insurance requirements for contracts with a value above R50 million on the LANDSIDE

- Contracts with a value of more R50 million are not automatically covered under the construction policies. A separate quote is provided by insurers per contract.

3.1 Contract Works

With regards to contract works claims, the contractor / consultant is responsible for the following deductibles:

- All Civil Work and Earthworks – R300 000 deductible (excess)
- All other claims – R300 000 deductible (excess)
- Other property insured – R700 000 deductible (excess)
- Contractors / consultants may re-insure the deductibles

3.2 Public Liability

- In the event of a claim brought against the contractor / consultant for 3rd party property damage the contractor / consultant will be responsible for a deductible (excess) of R275 000
- In the event of a claim brought against the contractor / consultant for removal of lateral support, the contractor / consultant will be responsible for a deductible (excess) of R500 000
- Contractors / consultants may re-insure the deductibles

3.3 Professional Indemnity

- All consultants are responsible for Professional Indemnity cover of R10million
- Contractors who have a material design element, excluding typical P & G related work, as part of their scope, are responsible for a Professional Indemnity cover of R10million
- In the event of a claim above R10million, the ACSA PI cover will kick in for the amount in excess of R10m
- Proof of cover in the form of a certificate of insurance should be provided to ACSA before a contract is signed between ACSA and the contractor and/or consultant.

4. Insurance requirements for contracts with a value above R50 million on the AIRSIDE

- Contracts with a value of more R50 million are not automatically covered under the construction policies. A separate quote is provided by insurers per contract.

4.1 Contract Works

With regards to contract works claims, the contractor / consultant is responsible for the following deductibles:

- All Civil Work and Earthworks excluding Runways – R300 000 deductible (excess)
- Runway Rehabilitation – R300 000 deductible (excess)
- New Runway Construction – R700 000 deductible (excess)
- All other claims – R300 000 deductible (excess)
- Other property insured – R700 000 deductible (excess)
- Contractors / consultants may re-insure the deductibles

4.2 Public Liability

- In the event of a claim brought against the contractor / consultant for 3rd party property damage the contractor / consultant will be responsible for a deductible (excess) of R1 025 000
- In the event of a claim brought against the contractor / consultant for removal of lateral support, the contractor / consultant will be responsible for a deductible (excess) of R1 250 000
- In the event of a claim for damage to aircraft, the contractor / consultant will be responsible for a deductible (excess) of R1 250 000
- Contractors / consultants may re-insure the deductibles

4.3 Professional Indemnity

- All consultants are responsible for Professional Indemnity cover of R10million
- Contractors who have a material design element, excluding typical P & G related work, as part of their scope, are responsible for a Professional Indemnity cover of R10million
- In the event of a claim above R10million, the ACSA PI cover will kick in for the amount in excess of R10m
- Proof of cover in the form of a certificate of insurance should be provided to ACSA before a contract is signed between ACSA and the contractor and/or consultant.

PART C2: PRICING DATA

Serial No	Description	Quantity	Unit Cost	Sub Total Ex Vat
1	Site establishment	1	R	R
2	Removal and disposal of old termination links	Sum	R	R
3	Supply, deliver and install new termination links	Sum	R	R
4	Termination of MV cables on links including resealing	Sum	R	R
5	Supply and delivery of dry type minisub	3	R	R
6	Installation of dry type minisub	3	R	R
	Supply, deliver, install the new termination kits on the existing 30 x Minisub stations to replace the old terminations into the bushings	30	R	R
7	Safety file	1	R	R
8	Permit and AIT (provisional sum to paid on proven costs)			R10 000
11	TOTAL EXCLUDING VAT			
12	VAT			
13	TOTAL INCLUDING VAT			

PART 3: SCOPE OF WORK

ACSA KSIA seeks to appoint a competent service provider for the supply, delivery, installation, test and commissioning of Minisubstation. The scope includes but not limited to the following:

- Decommissioning and removal of currently installed 3 x oil type landside Minisubstations
- Supply, delivery, installation, testing and commissioning of 3 x Dry type Minisubstations
- Remove existing terminations on the MV side of the each of 30 x Minisubstation
- Remove existing termination links
- Install new termination links
- Terminate MV cables on the termination links for 30 x Minisub
- Apply insulation on the terminations.
- Supply and deliver three new dry type Minisubs
- Removal of three existing Minisubs
- Installation of the new three dry type Minisubs
- Commissioning of the newly installed Minisubs
- Commissioning of new terminations and insulations on all minisubs

1.1 1.3 Specifications

1.1.1 1.3.1 Dry Type Minisubstation

The internal arc-protected miniature substations. High-quality, folded sheet metal customizable housings manufactured with 3CR12 – coastal. Re-enforced hot dipped galvanised steel channel bases. Fully segregated compartments for the Medium Voltage Ring Main Unit, transformer, and Low Voltage compartments. Robust, removable roofs ensure easy access by authorized personnel.

Minisubstation Size: 500kVA 11 000V 50Hz

Transformer Information: Primary Voltage 11 000V

Secondary Voltage: 420V Frequency 50Hz

Impedance %: 4.66 **Vector Group:** Dyn11 **HV/LV Winding Material:** AL **Tap Switch** Yes

1.2 TRF-Fittings: Rating Plate Yes, Thermometer Pocket: Yes TRR-Finishings: Coastal YES, Colour Avocado HT-Switchgear: SF6

T-OFF Circuit Breaker, with faults discrimination.

LV-Compartment: LV Main MCCB 800A LV Main Isolator No 3 Phase + N Busbar, Earth Busbar, Ammeters + CT's, Voltmeter and Selector Switch

Minimum Clearance in Air	
HV phase to phase	230mm
HV phase to earth	180mm

LV phase to phase	25.4mm
LV phase to earth	25.4mm
Terminal Connections	
HV line end terminal with HT cable box	Suitable for terminating 11kV x 2x 185sq.mm 3c PILC cable + 70sq.mm BEC + 12 core pilot. Bottom entry.
LV line end terminal	Suitable for 4000A interleaved bus duct bottom entry.
The Employer's earthing	2x 70sq.mm BEC conductor.
Colour finish shade of enclosure exterior	Avocado
Cable/bus entry (Bottom, side, top)	Bottom entry

1.3 1.4 General Constructional Features: -

1.4.1 All material used shall be of best quality and of the class most suitable for working under the conditions specified and shall withstand the variations of temperature and atmospheric conditions, overloads, over excitation, short circuits as per specified standards, without distortion or deterioration or the setting-up of undue stresses in any part and also without affecting the strength and suitability of the various parts of the work which they have to perform.

Transformer shall be provided with suitable enclosure / cubicle. It shall be possible to withdraw the transformer from the enclosure after disconnecting the terminations without disturbing bus bars and cables.

1.4.2 All transformers supplied for system shall be identical. Further similar parts, particularly removable ones, shall be interchangeable.

1.4.3 Nuts, bolts and pins used inside the transformer shall be provided with lock washers or locknuts.

1.4 CORE: -

The magnetic circuit shall be constructed from high grade cold-rolled non-ageing grain oriented low loss silicon steel laminations and shall be of 'Core' type. The core shall be painted with suitable resin to protect it against corrosion and other parts shall be hot dip galvanised. The lamination shall be free of all burrs and sharp projections. The lamination Grade shall be laser etched type and shall be subject to *The Employer's* approval.

1. The core shall be of Boltless type.
2. All steel sections used for supporting the core shall be non-magnetic. They shall be thoroughly shot, or sand blasted, after cutting, drilling and welding.
3. The design of the magnetic circuit shall be such as to avoid static discharges, development of short circuit paths within itself or to the earthed clamping structure and production of flux component at right angles to the plane of laminations which may cause local heating.

4. The finally assembled core with all the clamping structures shall be free from deformation and shall not vibrate during operation.
5. The core clamping structure shall be designed to minimize eddy current loss and bolts shall not pass through the lamination for any purpose whatsoever. Fibre glass or equivalent tapes of adequate strength shall be used for clamping the core through an approved procedure.
6. The core shall be provided with lugs suitable for lifting the complete core and coil assembly.
7. The transformer core should be equipped with minimum of 15mm thickness cooling duct.

1.5 WINDINGS: -

1. Windings shall be of high conductivity Aluminium/Copper conforming to SANS 780. The conductors shall be transposed at intervals in order to minimize eddy currents and equalize the distribution of currents and temperatures along the windings. The insulation class for the windings shall be at least Class-F having high tensile and dielectric strength. Low voltage windings shall be of foil type. High voltage windings can be cross over coils or disc type coils separated from each other by keyed radial spacers.
2. Both HV and LV windings of one phase shall be separately cast on one rigid tubular coil co-axially arranged with no mechanical connection between their arrangements. The completed coil assembly shall be cast under vacuum into moulds, which forms the Insulation System. The coil shall be casted in epoxy resin with a fibre glass or super enamel covering on the conductor to form a compact tubular spool for achieving high mechanical strength.

Cooling ducts should be provided on LV and HV winding. HV winding cooling duct should be formed not more than 4 segments per layer to utilize more area for cooling.

3. The resin used for winding insulation shall be non- hygroscopic to prevent the penetration of moisture into windings. It should be possible to energize the transformer without pre-drying even after a long period of service interruption. The resin used shall be self-extinguishing and void free and shall be suitable for tropical climate and 100% air humidity.
4. The transformer shall be free of partial discharges at least up to 1.2 times of the rated voltage and shall be able to withstand short circuits as well as switching and atmospheric impulse voltages as specified.
5. The current density in case of Aluminium winding shall be 1.2 Amps or less & Copper winding shall be 2.2Amps/sq.mm

1.6 TEMPERATURE SENSORS: -

Two sensing elements (RTDs) shall be provided in each phase. The RTDs shall be embedded at the hottest spot. The type of RTD shall be simplex and the material shall be platinum.

1.7 CORE AND COIL ASSEMBLY: -

The cast coils are inserted on to the core limbs. The resin cast spacer blocks, end blocks and separators are used as required. The end frames are then assembled.

1.8 EARTHING: -

All internal metal parts of the transformers shall be earthed at one point only. The magnetic circuit shall be connected to the clamping structure at one point only. The framework and clamping arrangements of core and coil shall be securely earthed by copper strip connection to the main frame and enclosure. Two earthing terminals shall be provided on the frame for external earthing. The terminals shall be suitable for the earthing conductor of size indicated in the *Works Information*.

Body earthing: Two Stainless steel earth pads of 20 mm thick and threads up to 15 mm shall be provided for terminating earth conductor.

1.9 TERMINATIONS: -

1. The HV side termination facility to be provided on transformers shall be suitable for terminating 11kV x 400sq.mm XLPE cables (as per the transformer rating), size of which will be intimated during the drawing approval stage. The cable entry shall be from the top. Formation of delta on the HV side is in the scope of manufacturer. Suitable undrilled gland plate shall be provided on top entry.
2. Phase to phase and phase to ground clearances within the enclosure shall be such as to enable either the transformer or cable to be subjected separately to HV tests. Minimum clearances shall be as specified in data sheets.
3. The Busbars shall be sleeved with respective voltage insulation levels.
4. The bottom of HT cable box shall be 1 meter from the enclosure bottom plate. The height of HT connectors shall be 750 mm from gland plate.
5. Cable supports shall be provided from the roof to the cable box. Support arrangement will be approved during drawings approval stage
6. Tinned Copper flat of size 50 x 6 mm shall be provided at bottom of cable box for terminating cable armour earthing.
7. One neutral bushing shall be provided to facilitate leading the earth conductor down to the ground level. The terminal shall be suitable for connecting to two separate earthing pads. Suitable lugs shall be supplied by *The Contractor* for connecting the earthing conductors.

1.10 BUSHINGS / SUPPORT INSULATORS: -

1. Bushings/Support Insulators shall be designed and tested to comply with the applicable standards.
2. Bushings shall have non-ferrous and non-magnetic flanges and hardware.
3. Fittings made of steel or malleable iron shall be galvanised.

4. All bushings/support insulators shall be supplied with terminal connector clamp suitable for supporting the bushing terminal & *The Employer's* conductor as specified in data sheet.
5. Minimum air clearance and minimum creepage distances shall be as per data sheet.
6. Bushing/support insulators material shall be porcelain.

1.11

ENCLOSURE FOR TRANSFORMERS: -

1. The core and coil assembly shall be enclosed on the four sides and as well as on the top by a sheet metal enclosure. The purpose of having the enclosure is to provide safety from live parts and prevent ingress of dust, vermin and rodents. Sufficient louvers may be provided on the side enclosure for cooling purposes. The louvers should be covered with stainless steel wire mesh having holes that shall meet IP 33/23 protection. The enclosure should have structural steel framework with lockable hinged door on front and back of the transformer. Width of the back door shall be restricted to one metre.
2. The doors shall be provided to facilitate the inspection of the transformers. Door should be gasketed. All panel edges and door edges shall be reinforced against distortion by rolling, bending or by the addition of welded reinforcement members.
3. The complete structure shall be rigid, self-supporting, free from vibration, twists and bends and shall be suitable for connecting ventilation hood. At the top of enclosure flanged throat connection, suitably drilled with gasket shall be provided for connection with ventilation duct. Size will be furnished at drawing approval stage. A wire mesh shall be provided on the top of the enclosure where ventilation hood is to be connected. The type of wire mesh shall be stainless steel.
4. The enclosure shall be provided with a degree of protection not less than IP: 33/23 as per SANS/IEC 61439-1 with cooling fans.
5. The enclosure shall be provided with a metal sill frame made of structural steel channel section properly drilled for mounting the enclosure with the transformer along with necessary mounting hardware.
6. The Contractor shall ensure the arrangement and orientation of the LV and HV terminals, bus bars and cable termination such that whenever required, it shall be possible to draw out the transformer without disturbing either the bus bars or the cables.
7. A door switch with 2NO+2NC auxiliary contacts shall be provided. It will be used for providing interlock in the HV breaker circuit. Also, enclosure door shall be provided with Interlock. This interlock ensures that transformer enclosure door shall be opened only when respective feeder breaker in OFF condition.

1.12 1.5 MV side Termination

- Termination to be well suited for coastal environment, withstand the moisture formation and high humidity environment.

1.13 1.6 Commissioning of Works

1. When installation stage is complete, *The Contractor* must submit operating manual to *The Employer* and as-built drawings within 7 days. An appointment date for commissioning must be arranged by *The Contractor* with 2 weeks after submitting operating manual and as-built drawings. During commissioning the following checks are to be done:
 - ☐ Verification and calibration of measurements and winding instruments
 - ☐ Verification of functionality of cooling fan start signals, alarms and trip signals.
 - ☐ Cooling equipment checks.
 - ☐ Check control circuit cabling and auxiliary power cabling.
 - ☐ Check Buchholz relay functionality (where applicable) ☐ Checking of pressure relief valve (i.e. if applicable) ☐ Checking of rapid rise pressure relay.
 - ☐ Checking of tap changer over pressure switch.
2. A checklist page prepared by *The Contractor* is to be used to tick each step of commissioning process by stakeholders and *The Employer* can issue a snag list to *The contractor* after this process, of which *The Contractor* must fix within a period agreed between two parties. No payments are to be made by *The Employer* until all snags are completed and snag list signed off by *The Project Manager*
3. When checks and visual snags are completed, the following tests are to be completed by *The Contractor*:
 - ☐ Swept frequency response analysis (SFRA)
 - ☐ Ratio, polarity and vector group verification.
 - ☐ Tan delta/Power Factor/Dielectric dissipation factor and capacitance tests on winding.
 - ☐ Excitation/Magnetising current tests.
 - ☐ Impedance/Leakage reactance test. (compare to nameplate and factory tests)
 - ☐ Zero sequence impedance tests
 - ☐ Insulation resistance test on windings, core and frame to earth (i.e. Megger) ☐ Current transformer testing.

1.14 1.7 Standards

The entire installation must comply with the following standards.

No	Code No.	Title
1	OHS Act	Occupational health and Safety Act and Regulations (85 of 1993).
2	SANS 780: 2009	General transformer regulations

3	SANS 10142: Part 1 & Part 2	Wiring codes: Low Voltage Installations & Medium Voltage fixed installations.
4	SANS 876:2016	Cable terminations and live conductors
5	SANS/IEC 60076	Power Transformers
6	NRS 083-3	Secondary equipment installations and substation rooms
7	SANS 1973-1:2007	Low voltage switchgear requirements
8	SANS/IEC60439: Part 1 5	NB: Part 2 for busbar trucking requirements
9	SANS 10198	The selection, handling and installation of electric power cables of rating not exceeding 33kV
10	ISO 9001	International Standard For Quality Management
11	IEC: 216	Guide for determination of thermal endurance properties of electrical insulating materials.
12	IEC:270	Partial Discharge Measurements
13	IEC: 60551	Determination of transformer and reactor sound levels.
14	IEC: 60606	Application guide for power transformers
15	IEC: 60616	Terminal and tapping markings for power transformers.
16	IEC: 60726	Dry-type power transformers
17	SANS 1029	Miniature substations for rated a.c. voltages up to and including 24 kV.
18	SANS 62271-1	Applies to AC switchgear and control gear

19	SANS 780	Distribution transformers
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Document reference	Title	No of pages
	This cover page	1

C3.1	<i>Employer's Works Information</i>	16
C3.2	<i>Contractor's Works Information</i> ¹	1
Total number of pages		18

TABLE OF CONTENTS

Clause number and description	Page
Part 3: Scope of Work	29
C3.1: Employer's works Information	2
1. Description of the <i>works</i>	Error! Bookmark not defined.
2. Contract Management	2
3. Engineering and design of the <i>works</i>	4
4. Procurement.....	4
5. Construction	5
6. Plant and Materials standards and workmanship	9
2. List of drawings	11
C3.2 <i>Contractor's</i> Works Information	12

C3.1: EMPLOYER’S WORKS INFORMATION

- Determine the required protection settings for each sixty-nine (9) switchgear from M1 Substation to all other nine (9) substations.
- Supply and install network simulation software with loaded KSIA designed network layout

PHASE 2: DETAILED CONSTRUCTION SCOPE

- Replace current installed automated change over mechanism with PLC controlled technology.
- Supply and installed the bay CPU & controllers for M1 Substation to control eight (8) switchgear for automatic changeover.
- Supply and install changeover I/O modules for all seven panels
- Supply and replace the 69 X power quality & energy meter for each switchgear
- Supply and install 120 x power quality and energy meter for 400V DB
- Supply and install 110V Battery Tripping Unit for Protection relays with batteries
- Supply and install 276 X Protection relays (O+E protection, Differential Protection, arc protection, thermal overload, Buchholz relays, phase protection relays, undervoltage & overvoltage protection, fault trip flag protection, master trip protection).
- Master trip/ pilot cable protection connection upstream with Municipality Feeder for all three Incomers
- Supply instrument panel fitted with protection relays and meters.
- Reconnect the existing SCADA cabling and test to ensure the functionality for remote monitoring and control
- Commissioning and testing of the automatic changeover installation
- Commissioning and testing of the protection settings relays
- Commissioning and testing of the MV network simulation software
- Update the As-built drawings with latest technical information

Installation Requirements

- The cable should be laid inside the cable trays, where there is no sufficient or spare cable trays, new trays to be laid.
- All termination to be inside the DBs
- The fitting design layout to take into consideration the loading requirement of the current circuit.
- **Update as Built Drawing and provide 2 x hard copies and 1 x soft copy**
- **Commissioning and testing**
- **Provide training to users and maintenance personnel after the last aircraft landed (24 personnel)**
- **All parts and installations should comply with:**
 - Applicable SANS standards
 - OSH Act,
- **Bidder to submit the project milestone or Gantt chart indicating key project milestones.**

1. REQUIREMENTS

1.1. Disposal during and after contract period:

- The Contractor / Service Provider remains solely responsible for the generation, disposal and clean-up of any form of waste that is produced during the term of their contract at KSIA.
- The Contractor / Service Provider will ensure that all waste which necessitates the safe disposal thereof, will be done in accordance with all the latest and applicable legislation (environmental etc.) governing same.

1.3 The following project specific management actions apply:

Management actions:

- There shall be no littering at any of the construction sites. All litter shall immediately be removed and stored in appropriate storage containers which shall be regularly emptied;
- The Contractor shall arrange for all waste generated by his activities to be correctly segregated, removed from site and safely disposed of at a registered waste disposal facility; and
- Records shall be kept of valid disposal certificates for all waste material that is disposed of.

2. Interpretation and terminology

Abbreviation	Meaning given to the abbreviation
ACSA	Airports Company South Africa SOC Limited
AC	Advisory Circular
AGL	Aeronautical Ground Lighting
CAA	Civil Aviation Authority
CAT	Category
CCR	Constant Current Regulator
CRI	Colour Rendering Index
EMC	Electromagnetic Compatibility
EN	European Standards
FAA	Federal Aviation Administration
FOD	Foreign Object Debris

ICAO	International Civil Aviation Organisation
IEC	International Electrotechnical Commission
IP	Ingress Protection
ISO	International Standard Organisation
LED	Light Emitting Diode
MTBF	Mean Time Between Failures
OSH Act	Occupation Health and Safety Act 85 of 1993
RMS	Root Mean Square
RWY	Runway
SACAA	South African Civil Aviation Authority
SANS	South African National Standards
TWY	Taxiway
UGR	Universal Glare Rating

3. Contract Management

Management meetings²

Works co-ordination and work progress meetings – monthly

Airports Company South Africa Limited will convene monthly meetings at which representatives of the Contractor and Airports Company South Africa Limited will be present. The Contractor will record minutes of the meetings. The meetings will be held at the Employer's site, and the venue will be communicated at least a week in advance.

The minutes to be distributed to all parties within seven working days after the meeting was held.

Health and safety risk management

The contractor will be required to submit the progress report on the project, and highlighting any risk that may hamper or delay the progress

These requirements may be included as an annexure to the Works Information, in which case, the following will be stated in this section: "The Contractor shall comply with the health and safety requirements contained in core clause C1.4 to this Works Information".

ACSA personnel responsible is OSH Compliance Manager

Environmental constraints and management

The contractor to ensure that the design and his associated activities (installation, disposal of waste, noise, pollution etc.) complies with ACSA environmental policy. ACSA personnel responsible for Environmental Compliance is Environmental Compliance Manager. The contractor is required to report monthly on any environmental issues that affect the project or affected by project

Quality assurance requirements

Within the period stated in the Contact Data, the Contractor submits his complete quality control and assurance system (with all quality control and assurance procedures and

² The information in this section is required by the contract. Do not delete.

manuals) for review and acceptance by the Employer. The manual includes pro-forma checklists for all requirements of the Contractor's quality control and assurance program and those called for in the Scope.

Acceptance by the Employer of the Contractor's quality assurance programme, quality plans and/or inspection and/or test plans, or of those of his Subcontractors will not relieve the Contractor of his obligation to provide services which meet the requirements of the Contract. Where the resin is used, the sufficient must be allowed for the resin to set and flush with tarmac.

Programming

The programing as per Tender Submission. The contractor will be required to submit the revised programme within two weeks after the start date. The contractor need to factor the risks such as lead times, working on the live manoeuvring areas etc.

The Contractor's Personnel

The Contractor's personnel as per Tender Submission. Contractor to submit the organigram in conjunction with the subcontractor personnel. Any change in personnel need to be approved by Employer Project Manager

Insurance provided by the Employer

Insurance information as per insurance clauses C1.5

Provision of bonds and guarantees

Without limitation to the Employer's rights under the Contract, the Employer may withhold payment of amounts due to the Contractor until the bond or guarantee required in terms of this contract has been received and accepted by the person notified to the Contractor by the Project Manager to receive and accept such bond or guarantee. Such withholding of payment due to the Contractor does not affect the Employer's right to termination stated in this contract.

Records of Defined Cost, payments & assessments of compensation events to be kept by the Contractor. The records should be file by the contractor as hard copies and shared with Project Manager on soft copy (emailed) Without limitation to the Employer's rights under the Contract, the *Employer* may withhold payment of amounts due to the *Contractor* until the bond or guarantee required in terms of this contract has been received and accepted by the person notified to the *Contractor* by the *Project Manager* to receive and accept such bond or

guarantee. Such withholding of payment due to the *Contractor* does not affect the *Employer's* right to termination stated in this contract.

Training workshops and technology transfer

Training and technology transfer should be provided as stipulated in the Bill of Quantities

4. Engineering and design of the works

Employer's design

Design and specification is as per tender submission with associated documentation

Parts of the *works* which the *Contractor* is to design³

Contractor's design and installation plan which is to be submitted to the Project Manager for his acceptance and for the As built drawings to be prepared by the Contractor

Procedure for submission and acceptance of *Contractor's* design

The contractor's design as well as Employer specification and installation requirements as per tender submission will be used for this project. The As-built drawings to be prepared by the Contractor and submitted to the Project Manager for acceptance

Use of *Contractor's* design

[The contractor to ensure adherence to the specification as per tender documents, and built the final product for purpose that is intended for.

Equipment required to be included in the *works*⁴

The contractor may use any electrical equipment or tool to ensure the proper completion of works. The list of all tools to be used onsite to be presented as the part of safety file including the safe operating procedures for those tools.

As-built drawings, operating manuals and maintenance schedules

The contractor to provide As-built drawings, operating manuals and maintenance as stated in the Bill of Quantities as the part of the hand-over documentation.

5. Procurement

Personnel:

Minimum requirements of people employed on the Site

No Minimum requirements of people employed on the Site.

Subcontracting

Preferred subcontractors

No preferred subcontractor or supplier by Employer

Limitations on subcontracting

The Contractor may not subcontract more than 20% of the Works where a subcontractor is not an EME.

Plant and Materials

Plant & Materials provided "free issue" by the *Employer*

*Plant & Materials storage and safeguard is the responsibility of the Contractor
The contractor to clearly state the lead times on Contractor's procurement of Plant and Materials*

Contractor's procurement of Plant and Materials

[Contractor to ensure that the material procure are compliant with the specification on the tender document, where possible the procurement preference should be given to Black people suppliers.

Tests and inspections before delivery⁵

A proof of Factory testing will be required prior the delivery of the first batch of material

Marking Plant and Materials outside the Working Areas⁶

The contractor need to state how the material procured will be marked once the deposit amount of 30% is paid, and 70% paid on shipment. The contractor to indicate how the guarantee of the material delivery will be ensured once the deposit is paid upfront.

Contractor's Equipment (including temporary works)

Contractor' equipment and material to be safely secured at all times especially when are not in used on the airside.

6. Construction

Temporary works, Site services & construction constraints

Site establishment and equipment to be based on the airside -It will be a contractor's responsibility to provide a secure environment for their equipment. The contractor's personnel will be restricted to the contractor's own established site and the agreed area of work. The contractor's personnel will not be permitted at the Airside/restricted areas without the necessary permits and reflective jackets

Employer's Site entry and security control, permits, and Site regulations

An induction course must be attended by the contractor and all personnel who would be involved on site. The contractor will need to make own arrangements for staff full medicals. And schedule with the ACSA's project manager for the induction course. Security arrangements would be discussed at the induction meeting and should be strictly adhered to. It should be noted that ACSA premises

⁵ The information in this section is required by the contract. Do not delete. If it does not apply, delete the notes in italics and substitute the words 'Not applicable'.

⁶ The information in this section is required by the contract. Do not delete. If it does not apply, delete the notes in italics and substitute the words 'Not applicable'.

subscribe to National Key Point Regulations, every person who conduct works at the Airport will be subjected to security vetting. ACSA will not be held liable should one of the contractor member fail SAPS vetting process.

The Contractor shall procure the services at King Shaka International Airport. All airside services are in restricted areas and access-controlled areas, accordingly it is crucial for the Contractor to note that King Shaka International Airport is a National Key Point and governed as such.

(b) The Contractor shall be compensated for costs relating to Employer required permits.

(c) The Contractor must ensure that he/she is, at all times, familiar with the Employer's safety and security requirements relating to permits in order for no services to be delayed as a result thereof. This includes the permit application process (available to the Contractor upon request).

(d) The Contractor shall have no claim against the Employer in the event that a permit request is refused for reasons not attributable to the Employer.

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

Permit	Required by/for	Department
<i>AVOP – Airside Vehicle Operator permit</i>	<i>All drivers of vehicles on airside</i>	<i>ACSA Safety</i>
<i>Airside Vehicle Permit</i>	<i>All vehicles that enter airside</i>	<i>ACSA Safety</i>
<i>Basement Parking permit</i>	<i>All vehicles allowed to enter the delivery basement</i>	<i>ACSA Parking</i>
<i>Personal permit</i>	<i>All persons employed on the airport</i>	<i>ACSA Security</i>
<i>Cell phone permit</i>	<i>All persons taking cell phones to airside</i>	<i>ACSA Security</i>
<i>Lap top permit</i>	<i>All persons taking lap top computers to airside</i>	<i>ACSA Security</i>
<i>Camera permit</i>	<i>All persons taking cameras or camera equipment to airside</i>	<i>ACSA Security</i>
<i>Hot Works Permit</i>	<i>All welding and/metal cutting services</i>	<i>ACSA Safety / Fire & Rescue</i>

(f) 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.

(g) *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.*

(h) *The Contractor shall not be allowed to use two-way radios at on the Employer's Premises unless these radios are of the type as approved by the ACSA IT department and are intrinsically safe.*

Restrictions to access on Site, roads, walkways and barricades

The Contractor shall protect the site properly and shall so arrange his operations that the minimum danger and inconvenience is caused to airport operations. For this purpose, he shall, inter alia, provide and maintain sufficient signs, lights, barricades, fencing and guarding as may be necessary or required by Airports Company South Africa Limited or by any act, regulation or statutory authorities. add project-specific requirements in this section]

People restrictions on Site; hours of work, conduct and records

It is expected that contractors wear visible company uniform or reflector jackets with contractor name there-on when entering the premises as a form of identification. Permits to be displayed at all times whilst on site.

Work will be conducted at night (10pm – 4am) to minimize the impact on operation. Work program to be submitted with the tender to ensure the manoeuvring area is clear of aircraft movements prior and during construction work. Proper inspections to be conducted daily on completion of day's work to ensure no Foreign Object Debris (FOD) e.g. screws, nut, wires, papers, insulation taps etc. are left on the tarmac or any manoeuvring area. Any damages or fatalities resulted due to Contractor's negligence on FOD management , the Contractor will be held liable for such action.

Title to materials from demolition and excavation⁷

Not Applicable

Contractor's Equipment

Contractor to record of equipment onsite, service history etc. and keep a file onsite.

Equipment provided by the Employer

Not Applicable

Site services and facilities provided by the Employer⁸

The Contractor shall be entitled to use such supplies of electricity and water as may be available on the Site for the purpose of the Works and at his own expense, shall provide any apparatus necessary for such use. The Contractor shall notify ACSA of any equipment or facility, which will be a consumer of electricity and water. The Contractor shall provide everything else necessary for Providing the Works"

Facilities provided by the Contractor

Facilities e.g. storage, site offices, vehicle, equipment provided by the contractor should be safeguarded by the contractor during the construction, and be removed off site upon the completion of the contract

Existing premises, inspection of adjoining properties and checking work of Others

All operations required in connection with the Agreement shall, as far as the provisions of the Agreement permit, not unnecessarily or in an improper manner encroach upon the use of airport facilities.

The contractor is to take cognizance that the airport is used by others and other contractors may be on site for unrelated projects/services

setting out of the works

The contractor will have full access to all manoeuvring areas from the start date. The layout drawings for all Airfield Ground Lighting position are available on request. For planning purpose the updated programme will be used to schedule the availability of the manoeuvring areas accordingly.

site conditions and requirements

Safety measures to be adhered to according OHS Act. Adhere to ACSA airside safety requirements regarding equipment, vehicles, and personnel operating on the airside.

Full risk analysis on working on height, next to aircraft and airside and mitigation thereof to considered as part of safety file requirements

Contractor to ensure that other Underground services, other existing services, cable and pipe trenches and covers are identified to prevent any disruption to these services due to contractor's activities.

Contractor to take necessary steps to control noise, dust, water and waste during his/her activities onsite.

Construction requirements

Contractor to request at least two days in advance to arrange for the circuit to taken out of commission in order to effect fitting replacement. It should be noted that not all the AGL circuits can be taken out of commission on request.

Once the lamp/s and/or fitting/s is replaced, it is expected to work immediately or available immediately for the next night airport operations. Contractor to liaise with Denel Aviation SOC for the best possible CCR calibrations. This to be included in the planning programme

Completion, testing, commissioning and correction of Defects

Work to be done by the Completion Date⁹

All work is to be done by the Contractor shall be completed by the Completion Date, The Project Manager cannot certify Completion until all the work except that listed above has been completed and is also free of Defects which would have, in his opinion, prevented the Employer from using the works and Others from doing their work.

Use of the works before Completion has been certified¹⁰

The Employer may use any part of the works before Completion has been certified but if he does so he takes over the part of the works. Any defect must be attended to as stipulated in the defect clause

Materials facilities and samples for tests and inspections

The contractor to present the product sample to the Project Manager prior the installation and submit the relevant factory test certificates.

Commissioning

The contractor to submit the commission procedures and plan to the Project Manager for approval. The commissioning procedure and plans will be adhered to during commissioning.

Start-up procedures required to put the works into operation

The contractor to ensure that he complies with all ACSA security, safety, environmental and operational requirements prior to the commencement of works complete accordingly

Take over procedures

The works will be handed over partially or fully once commissioned and certified by Project Manager. The commissioning should be witnessed by both ACSA representative and the contractor representative.

Access given by the Employer for correction of Defects¹¹

The Project Manager arranges for the Employer to allow the Contractor access to and use of a part of the works which has been taken over if needed to correct a Defect. After the works have been put into operation, the Employer may require the Contractor to undertake certain procedures before such access can be granted.

Performance tests after Completion

The works performance will be checked against the design parameters for the duration stipulated in the warranty period. Any deviation to the performance will be rectified by the contractor at their own costs.

Operational maintenance after Completion

Maintenance manuals and training will be provided by the contractor on completion of works

7. Plant and Materials standards and workmanship

Investigation, survey and Site clearance

Contract to ensure that a thorough inspection and clearance is conducted prior commencement of work of any other services that might be impacted by contractor's activities.

Building works

Product specification and installation standard to be compliant with the standard stated above in relation with ICAO or FAA standards.

Civil engineering and structural works

Not applicable

Electrical & mechanical engineering works

The units shall be EMC compliant to the EN55015, EN61347-1 standard or SANS 215, SANS 62612, SANS 61547 standards

Design of the lighting distribution should conform to ICAO Airport Design Manual (Doc 9157) and ICAO Annexure 14 Visual Aids Lighting requirements, SANS 1279 and SANS 10225 as per specification.

AGL Light to comply with FAA AC 150/5345-47 from any type of Constant Current Regulator (CCR) complying with FAA AC 150/5345-10 and IEC 61822.

All parts and installations should comply with the relevant:

SANS standards

OSH Act,

ICAO: Annexure 14

ICAO: Aerodrome Design Manual,

Federal Aviation Administration (FAA

Process control and IT works

Not applicable

8. List of drawings

1.1. Drawings issued by the *Employer*

The relevant drawing will be issued on request depending on the availability.

[illegible]

C3.2 CONTRACTOR'S WORKS INFORMATION

[The Contractor's design as per Tender Submission]

Materials specifications and schedules etc. as per tender Submission

Plant to be determined by the contractor

PART C4: SITE INFORMATION

Document reference	Title	No of pages
C4	This cover page	1
	Site Information	1
	Total number of pages	1

Core clause 11.2(16) states

Site Information is information which describes the Site and its surroundings and is in the documents which the Contract Data states it is in.

The work will be conducted on the airside on the Manoeuvring areas. The access to the site will be via North Gate .

Description of the Site and its surroundings

General description

The location is at King Shaka International

Existing buildings, structures, and plant & machinery on the Site

Care to be taken not to damage the existing infrastructure within MV and LV network.

Subsoil information

Not Applicable

Hidden services

Contractor to assume that there are third party services in the vicinity.

Other reports and publicly available information

Not Applicable.