

**AIRPORTS COMPANY SOUTH AFRICA SOC LIMITED**

**PROJECT NAME AND NUMBER:**

**TITLE OF PROJECT: Supply, Installation, and Commissioning of Ground Power Units (GPU) at KSIA for a period of 24 Months**

**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**

**[DRAFTING NOTE: INSERT CONTRACTOR NAME]**

(Registration Number: \_\_\_\_\_)

**FOR THE SERVICE PROVIDER TO SUPPLY AND COMMISSION  
GROUND POWER UNITS AT KSIA.**

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## 1.1 Part C1: Agreements and Contract Data

### 1.2 C1.1: Form of Offer and Acceptance

#### 1.2.1 Form of offer

The Employer, identified in the Acceptance signature block, has solicited offers to enter into a contract for:

Supply, installation, and commission of Ground Power Units plant at KSIA

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	<div>(Insert name and address of organisation)</div>	Date
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## 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)	Sihle Zuma	
Capacity	Manager Mechanical Department	

**For the Employer**

Airport Company South Africa (ACSA), SOC Limited

Applicable at King Shaka International Airport  
King Shaka Drive  
La Mercy  
4407

Name & Signature of Witness

/

Date

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**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.

	<b><u>For the Employer</u></b>	<b><u>For the Bidder</u></b>
Signature (s)	.....	.....
Name (s)	Sihle Zuma	.....
Capacity	Manager Mechanical	Authorised Tender Signatory
<b>Name and Address</b>	<b>Airports Company South Africa SOC Limited</b>	
	<b>The Maples Riverwoods Office Park, 24 Johnson Road, Bedfordview, Johannesburg</b>	
Name & Signature of witness	Sihle Zuma	.....
Date	.....	.....

**Part C1.2a Contract Data****Part one – Data provided by the *Employer***

The Conditions of the 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
<b>1</b>	<b>General</b>	
	The <i>conditions of contract</i> are the core clauses and the clauses for Main Option	
	Main Option	<b>B: Priced contract with Bill of Quantities</b>
	Dispute resolution Option	<b>W1: Dispute resolution procedure</b>
	Secondary Options (incorporating amendments)	<b>X2: Changes in the law</b> <b>X7: Delay damages</b> <b>X13: Performance Bond</b> <b>X16: Retention</b> <b>X18: Limitation of liability</b> <b>Z: Additional conditions of contract</b> of the NEC3 Engineering and Construction Contract, April 2013
10.1	The <i>Employer</i> is (Name)	Airports Company South Africa SOC Limited, Applicable to King Shaka International Airport.
	Address	Airports Company South Africa SOC Limited The Maples Riverwoods Office Park, 24 Johnson Road, Bedfordview, Johannesburg
	Telephone	Applicable to King Shaka International Airport. King Shaka Drive
	Fax	La Mercy 4407 032 436 6000 NA
10.1	The <i>Project Manager</i> is Sihle Zuma	

Address King Shaka Drive  
La Mercy  
4407  
032 436 6000  
NA

Telephone  
032 436 6548 E-mail address:  
Sihle.zuma@airports.co.za

10.1	The <i>Supervisor</i> is	Tlhoriso Tsoaeli
	Address	King Shaka Drive La Mercy 4407
	Telephone	032 436 6000
	Fax	NA
	Email	032 436 6548 Tlhoroso.Tsoaeli@airports.co.za
11.2	The <i>works</i> is Supply and installation of GPU.	
11.2	The following matters will be included in the Risk Register	<ul style="list-style-type: none"> <li>• Site Drawings</li> <li>• Access to Site</li> <li>• Site Constraints and Constructability</li> </ul>
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	King Shaka International Airport, Airside- Aprons
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
<b>3</b>	<b>Time</b>	
31.2	The <i>starting date</i> is	XX
11.2	The <i>completion date</i> is	XX
30.1	The <i>access date</i> is	XX
31.1	The <i>Contractor</i> submits a first (preliminary) programme with the tender by the tender closing date	XX



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 Employer 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	4 (Four) 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 of 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	<table><tr><td>Month</td><td>Days</td><td>Month</td><td>Days</td></tr><tr><td>January</td><td>1</td><td>July</td><td>4</td></tr><tr><td>February</td><td>1</td><td>August</td><td>3</td></tr><tr><td>March</td><td>2</td><td>September</td><td>2</td></tr><tr><td>April</td><td>2</td><td>October</td><td>2</td></tr><tr><td>May</td><td>3</td><td>November</td><td>2</td></tr><tr><td>June</td><td>3</td><td>December</td><td>1</td></tr></table>	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
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																												
84.2	The <i>Contractor</i> provides the insurance stated in	The Insurance Clauses which are 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

<b>9</b>	<b>Termination</b>	No data required for this section of the <i>conditions of contract</i>
<b>10</b>	<b>Data for Main Options</b>	
<b>B</b>	Priced contract with Bill of Quantities	[include if applicable]
<b>11</b>	<b>Data for Option W1</b>	
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 Arbitrator 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.
<b>12</b>	<b>Data for Secondary Option Clauses</b>	
<b>X7</b>	<b>Delay Damages</b>	
	Delay damages of the <i>works</i> are	The amount per day is 0.05%, to the maximum of 10% of the Contract value
<b>X13</b>	<b>Performance bond</b>	
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.
<b>X16</b>	<b>Retention</b>	
X16.1	The <i>retention percentage</i> is	5% of the Contract value.
<b>X18</b>	<b>Limitation of Liability</b>	
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 Contractor's 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.
<p>The e excluded matters are amounts payable by the Contractor as stated in this contract for</p> <ul style="list-style-type: none"> <li>- Loss of or damage to the <i>Employer's</i> property,</li> <li>- Delay damages,</li> <li>- Defects liability,</li> <li>- Insurance liability to the extent of the Contractor's risks</li> <li>- loss of or damage to property (other than the <i>works</i>, Plant and Materials),</li> <li>- death of or injury to a person.</li> <li>- damage to third party property; and</li> <li>- infringement of an intellectual property right</li> </ul>		
<b>Z</b>	<b>The <i>Additional conditions of contract</i> are</b>	
	<b>Amendments to the Core Clauses</b>	
<b>Z1</b>	<b>Interpretation of the law</b>	
<b>Z1.1</b>	<b>Add to core clause 12.3:</b> 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.	
<b>Z2</b>	<b>Providing the Works:</b>	
<b>Z2.1</b>	<b>Delete core clause 20.1 and replace with the following:</b> 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	
<b>Z3</b>	<b>Other responsibilities:</b>	
<b>Z3.1</b>	<b>Add the following at the end of core clause 27:</b> 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	
<b>Z3.2</b>	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.	

<b>Z4</b>	<b>Extending the defects date:</b>
<b>Z4.1</b>	<b>Add the following as a new core clause 46:</b> 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>
<b>Z4.2</b>	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
<b>Z4.3</b>	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
<b>Z5</b>	<b>Termination</b>
<b>Z5.1</b>	<b>Add the following to core clause 91.1, at the second main bullet, fifth sub-bullet point, after the words “assets or”:</b> “business rescue proceedings are initiated, or steps are taken to initiate business rescue proceedings.”
	<b>Amendment to the Secondary Option Clauses</b>
<b>Z6</b>	<b>Performance Bond</b>
<b>Z6.1</b>	<b>Amend the first sentence of clause X13.1 to read as follows:</b> 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.
<b>Z6.2</b>	<b>Add the following new clause as Option X13.2:</b> 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
<b>Z7</b>	<b>Limitation of liability:</b>
<b>Z7.1</b>	<b>Insert the following new clause as Option X18.6:</b> 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
<b>Z7.2</b>	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
	<b>Additional Z Clauses</b>
<b>Z8</b>	<b>Cession, delegation, and assignment</b>
<b>Z8.1</b>	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>
<b>Z8.2</b>	The <i>Employer</i> may cede and delegate its rights and obligations under this contract to any person or entity
<b>Z9</b>	<b>Joint and several liability</b>

<b>Z9.1</b>	If the <i>Contractor</i> 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 <i>Employer</i> for the performance of the Contract.
<b>Z9.2</b>	The <i>Contractor</i> shall, within 1 week of the Contract Date, notify the <i>Project Manager</i> and the <i>Employer</i> of the key person who has the authority to bind the <i>Contractor</i> on their behalf.
<b>Z9.3</b>	The <i>Contractor</i> 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 <i>Employer</i> .
<b>Z10</b>	<b>Ethics</b>
<b>Z10.1</b>	The <i>Contractor</i> undertakes:
<b>Z10.1.1</b>	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;
<b>Z10.1.2</b>	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 <i>Employer</i> is subject, including but not limited to the Prevention and Combating of Corrupt Activities Act, 12 of 2004.
<b>Z10.2</b>	The <i>Contractor's</i> breach of this clause constitutes grounds for terminating the <i>Contractor's</i> obligation to Provide the Works or taking any other action as appropriate against the <i>Contractor</i> (including civil or criminal action). However, lawful inducements and rewards shall not constitute grounds for termination.
<b>Z10.3</b>	If the <i>Contractor</i> 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 <i>Employer</i> , the <i>Employer</i> 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.
<b>Z11</b>	<b>Confidentiality</b>
<b>Z11.1</b>	All information obtained in terms of this contract or arising from the implementation of this contract shall be treated as confidential by the <i>Contractor</i> 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 <i>Project Manager</i> or the <i>Employer</i> , which consent shall not be unreasonably withheld.
<b>Z11.2</b>	If the <i>Contractor</i> is uncertain about whether any such information is confidential, it is to be regarded as such until otherwise notified by the <i>Project Manager</i> .
<b>Z11.3</b>	This undertaking shall not apply to –
<b>Z11.3.1</b>	Information disclosed to the employees of the <i>Contractor</i> for the purposes of the implementation of this agreement. The <i>Contractor</i> 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;
<b>Z11.3.2</b>	Information which the <i>Contractor</i> is required by law to disclose, provided that the <i>Contractor</i> notifies the <i>Employer</i> prior to disclosure so as to enable the <i>Employer</i> to take the appropriate action to protect such information. The <i>Contractor</i> 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;
<b>Z11.3.3</b>	Information which at the time of disclosure or thereafter, without default on the part of the <i>Contractor</i> , enters the public domain or to information which was already in the possession of the <i>Contractor</i> at the time of disclosure (evidenced by written records in existence at that time);

<b>Z11.4</b>	The taking of images (whether photographs, video footage or otherwise) of the <i>works</i> or any portion thereof, in the course of Providing the Works and after Completion, requires the prior written consent of the <i>Project Manager</i> . All rights in and to all such images vests exclusively in the <i>Employer</i>
<b>Z11.5</b>	The <i>Contractor</i> ensures that all his Subcontractors abide by the undertakings in this clause.
<b>Z12</b>	<b><i>Employer's Step-in rights</i></b>
<b>Z12.1</b>	If the <i>Contractor</i> 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 <i>Project Manager</i> , the <i>Employer</i> , 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 <i>Contractor</i> ) to do so on his behalf. The reasonable costs of such remedial works shall be borne by the <i>Contractor</i>
<b>Z12.2</b>	The <i>Contractor</i> co-operates with the <i>Employer</i> 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 <i>Contractor</i> under the contract or otherwise for and/or in connection with the <i>works</i> ) and generally does all things required by the <i>Project Manager</i> to achieve this end.
<b>Z13</b>	<b><i>Liens and Encumbrances</i></b>
<b>Z13.1</b>	The <i>Contractor</i> keeps the Equipment used to Provide the Services free of all liens and other encumbrances at all times. The <i>Contractor</i> , vis-a-vis the <i>Employer</i> , 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 <i>Employer</i> , waive all liens they may have or become entitled to over such Equipment from time to time
<b>Z14</b>	<b><i>Intellectual Property</i></b>
<b>Z14.1</b>	Intellectual Property ("IP") rights means all rights in and to any patent, design, copyright, trademark, trade name, trade secret or other intellectual or industrial property right relating to the Works.
<b>Z14.2</b>	IP rights remain vested in the originator and shall not be used for any reason whatsoever other than carrying out the <i>works</i> .
<b>Z14.3</b>	The <i>Contractor</i> gives the <i>Employer</i> an irrevocable, transferrable, non-exclusive, royalty free licence to use and copy all IP related to the <i>works</i> for the purposes of constructing, repairing, demolishing, operating, and maintaining the works
<b>Z14.4</b>	The written approval of the <i>Contractor</i> is to be obtained before the <i>Contractor's</i> IP made available to any third party which approval will not be unreasonably withheld or delayed. Prior to making any <i>Contractor's</i> IP available to any third party the <i>Employer</i> shall obtain a written confidentiality undertaking from any such third party on terms no less onerous than the terms the <i>Employer</i> would use to protect its IP
<b>Z14.5</b>	The <i>Contractor</i> shall indemnify and hold the <i>Employer</i> harmless against and from any claim alleging an infringement of IP rights (" <b>the claim</b> "), which arises out of or in relation to:
<b>Z14.5.1</b>	the <i>Contractor's</i> design, manufacture, construction, or execution of the Works
<b>Z14.5.2</b>	the use of the <i>Contractor's</i> Equipment, or
<b>Z14.5.3</b>	the proper use of the Works.
<b>Z14.6</b>	The <i>Employer</i> shall, at the request and cost of the <i>Contractor</i> , assist in contesting the claim and the <i>Contractor</i> 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																										
<p>An <i>Adjudicator</i> 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 <i>Adjudicator</i>, the referring Party refers the appointment deadlock to the Chairman of the Johannesburg Bar Council, who appoints an <i>Adjudicator</i> listed in the Panel of Adjudicators below</p> <p>The Parties appoint the <i>Adjudicator</i> under the NEC3 Adjudicator's Contract, April 2013</p>		<p>Panel of Adjudicators</p> <table><tr><th>Name</th><th>Location</th><th>Contact details (phone &amp; e mail)</th></tr><tr><td>Adv. Ghandi Badela</td><td>Gauteng</td><td>+27 11 282 3700 <a href="mailto:ghandi@badela.co.za">ghandi@badela.co.za</a></td></tr><tr><td>Mr. Errol Tate Pr. Eng.</td><td>Durban</td><td>+27 11 262 4001 <a href="mailto:Errol.tate@mweb.co.za">Errol.tate@mweb.co.za</a></td></tr><tr><td>Adv. Saleem Ebrahim</td><td>Gauteng</td><td>+27 11 535-1800 <a href="mailto:salimebrahim@mweb.co.za">salimebrahim@mweb.co.za</a></td></tr><tr><td>Mr. Sebe Msutwana Pr. Eng.</td><td>Gauteng</td><td>+27 11 442 8555 <a href="mailto:sebe@civilprojects.co.za">sebe@civilprojects.co.za</a></td></tr><tr><td>Mr. Sam Amod</td><td>Gauteng</td><td><a href="mailto:sam@samamod.com">sam@samamod.com</a></td></tr><tr><td>Adv. Sias Ryneke SC</td><td>Gauteng</td><td>083 653 2281 <a href="mailto:reyneke@duma.nokwe.co.za">reyneke@duma.nokwe.co.za</a></td></tr><tr><td>Mr. Emeka Ogbugo (Quantity Surveyor)</td><td>Pretoria</td><td>+27 12 349 2027 <a href="mailto:emeka@gosiame.co.za">emeka@gosiame.co.za</a></td></tr></table>		Name	Location	Contact details (phone & e mail)	Adv. Ghandi Badela	Gauteng	+27 11 282 3700 <a href="mailto:ghandi@badela.co.za">ghandi@badela.co.za</a>	Mr. Errol Tate Pr. Eng.	Durban	+27 11 262 4001 <a href="mailto:Errol.tate@mweb.co.za">Errol.tate@mweb.co.za</a>	Adv. Saleem Ebrahim	Gauteng	+27 11 535-1800 <a href="mailto:salimebrahim@mweb.co.za">salimebrahim@mweb.co.za</a>	Mr. Sebe Msutwana Pr. Eng.	Gauteng	+27 11 442 8555 <a href="mailto:sebe@civilprojects.co.za">sebe@civilprojects.co.za</a>	Mr. Sam Amod	Gauteng	<a href="mailto:sam@samamod.com">sam@samamod.com</a>	Adv. Sias Ryneke SC	Gauteng	083 653 2281 <a href="mailto:reyneke@duma.nokwe.co.za">reyneke@duma.nokwe.co.za</a>	Mr. Emeka Ogbugo (Quantity Surveyor)	Pretoria	+27 12 349 2027 <a href="mailto:emeka@gosiame.co.za">emeka@gosiame.co.za</a>
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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	BBBEE Certificate																										

<b>Z18.1</b>	The <i>Contractor</i> 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.
<b>Z19</b>	<b>Communication</b>
<b>Z19.1</b>	<b>Add a new Core Clause</b> 14.5 and 14.6 to read as follows: The <i>Project Manager</i> 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
<b>Z19.2</b>	The <i>Project Manager</i> requires the written consent of the Employer if an action will result in the Completion Date being extended by more than 30 days.
<b>Z20</b>	<b>Delegation</b>
	As stipulated by Section 37(2) of the Occupational Health and Safety Act No. 85 of 1993 as amended the <i>Contractor</i> agrees to the following:
<b>Z20.1</b>	As part of this contract the <i>Contractor</i> 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:	<b>CV's to be appended to Tender Schedule</b>
	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	XX
11.2	The following matters will be included in the Risk Register	<ul style="list-style-type: none"> <li>• Existing Services</li> <li>• Access to Site</li> <li>• Delay in supply of material and/or equipment</li> <li>• Progress of the works against the program</li> <li>• Travelling public and ACSA stakeholders</li> </ul>
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	XX

**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 constitutes 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:**

<b>Name of Organisation:</b>  <b>AIRPORTS COMPANY SOUTH AFRICA</b> <b>Applicable to King Shaka International Airport</b>
<b>Physical Address:</b> <b>Airport Company South Africa Applicable to King Shaka International Airport</b> <b>King Shaka Drive</b> <b>La Mercy</b> <b>4407</b> <b>Tel:032 436 6000</b>

**Hereinafter referred to as “Client”**

<b>Name of organisation:</b>
<b>Physical Address</b>

**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,

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 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 below R50 million on the AIRSIDE**

###### **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 brought against the contractor / consultant for 3<sup>rd</sup> 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

###### **1.3 Professional Indemnity**

- All consultants are responsible for Professional Indemnity cover of R5 million
- 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.

##### **3.1 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 3<sup>rd</sup> 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 R10 million
- In the event of a claim above R10 million, 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.

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### **1.3 C3.1: Employer's works Information – Scope Of Works**

#### **1.4 Description of the *works***

KSIA is equipped with Ground Power units that are power coil. The GPU Power coil is a combination of a ground power unit and a cable retriever, these units are installed under the Passenger Boarding Bridges (PBB) on both Apron drive and Nose-loaders. The GPUs are used to provide power supply to the aircraft at carefully monitored voltage. This plays an important role in efficient aircraft turn-around and ensuring a pleasant working environment for staff.

The current installation of GPU at the airports is AXA Power Coil 2200. The units have an output at delivery, which limits the converter to be set to the nominal output voltage. The adjustment range for the existing units is nominal voltage  $\pm 15\%$ . Even though the units allow for an adjustment If the voltage level falls outside the converter's operation range, the converter disengages and reports under or over voltage.

For the airport to be able to accommodate the latest version of aircraft it is recommended that the unit is upgraded to the latest version that will be able to full fill the stringent requirements of most installations and be able to compensate rates for long symmetrical output cables, unbalanced loads as well as various power factors.

The magnetic wave-shaping topology ensures a clean input power with a unity power factor and a current THD of less than 5%.

The scope of this service is to replace 16 existing GPUs with the latest version.

To replace the current 2200 GPU type with the latest version of the 2400 type GPU or equivalent, with the output voltage quality of the latest version. The new units should still resemble the existing units in terms of being power coil and unique due to the patented Plug & Play system.

The new units must be designed to fulfil the coming ISO 6858 standard that requires max. phase unbalance of less than 4 V and a phase angle of  $120^\circ \pm 2.5\%$ . The type can generate a voltage of the 3 phases at 35% unbalanced load @ PF 0.8 by use of a typical cable consisting of 65 m of 7x35 mm<sup>2</sup> installation cable and 26 m of 4x70 mm<sup>2</sup> flexible cable.

The new units must be able to allow for 400% overload which means that they can be used for all types of aircraft from the narrow-body to the wide-body incl. B787/A350/A380. The units must be rust protected though galvanized and powder coated, the protection should be extended to all parts including bolts and brackets that must be stainless steel.

## 1.5 Interpretation and Terminology

Abbreviation	Meaning given to the abbreviation
ACSA	Airports Company South Africa SOC Limited
KSIA	King Shaka International Airport

PBB	Passenger Boarding Bridges
HMI	Human Machine Interface
GPU	Ground Power Units
LCP	Local Control Panel
IP	Intellectual Property
SAS	Substation automation system
PLC	Programmable Logic Control
SCADA	Supervisory Control and Data Acquisition
GPU	

## 1.6 Contract Management

### Management meetings

The Contractor will be expected to attend meetings relating to the project, maintenance, operation's, 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. Either party will nominate a person to take the minutes of the meeting. The Minutes are to be distributed prior the to date of the next meeting. The meeting is to take place every Friday of the week at 14H00 unless pre-arranged by either party

Health and safety risk management (I) The Project 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.

(ii) The Contractor shall be fully responsible for compliance with 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.

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

(iv) All persons on company premises shall obey all health and safety rules, procedures, and practices. NO SMOKING signs and the prohibits carrying 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.

- (v) 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 Project Manager.
- (vi) 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
- (vii) 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.
- (viii) 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.
- (ix) 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.
- (x) No person shall perform an unsafe / unhygienic act or operation whilst on Company premises.
- (xi) 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.
- (xii) 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.

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

(xiv) At no time, must the Contractor interfere with, or put at risk, the functionality of any Sprinklers and/or fire prevention system. In cases where the project is for the replacement or refurbishment of the Sprinkler System, care must be taken to prevent fire hazards.

(xv) 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 Project Manager). All costs relating to uniforms shall be for the Contractor's account.

Environmental constraints and management 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 stormwater systems
- interfere with, or put at risk, the functionality of any system or service
- cause a fire or safety hazard

## **1.7 Quality assurance requirements**

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 Project 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

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 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.

## **1.8 Programming**

The Contractor shall provide the project schedule to the Project Manager, detailing all key dates to the projects, i.e., forecast start, forecast finish, etc. The contractor is to take note that the airport is an international airport and remains open 24 hours for any schedule's flights and flight diversions.

## **1.9 The Contractor's Personnel**

The contractor to attach organogram of the company as well as the organogram for personnel for this project.

### **Insurance provided by the Employer**

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

Invoices shall be supplied on email as electronic copies to the Project manager. Payments to be made upon proven costs and work completed as per the bill of quantities. The contractor to keep register for all employees on site on daily basis. All project related incidents and instruction must be kept by the contractor at the site office to be provided by the employer. All records to be handed over to the employer at the completion of the project. All drawings and sketches provided by the employer to be returned at the end of the contract. Training workshops and technology transfer

The contractor to train the system user(s) on the new system operations and to train the maintenance contractor on system access, password, and adjustments. The contractor to



ensure that the technology transfer training is a success with the handing-over of training material to the employer.

## **1.10 Engineering and design of the works**

### **1.10.1 Employer's design**

The contractor is to supply all drawings that are pertaining to the design of new units including schematic layouts. The contractor is to update the existing electrical layout at the site after the new installation including confirmation of power rates.

Parts of the *work* which the *Contractor* is to design

N/A

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

N/A

Use of *Contractor's* design

The As-Built drawings will be handed over to ACSA. The Contractor gives the Employer an irrevocable, transferrable, non-exclusive, royalty-free license to use and copy all IP related to the works for the purposes of constructing, repairing, demolishing, operating, and maintaining the works. Refer to Z14.

### **1.10.2 Equipment required to be included in the works**

Contractor to supply their own tools and equipment including the cherry picker, the lifting equipment, the hoarding equipment, and signages to comply with the OHS act.

### **1.10.3 As-built drawings, operating manuals, and maintenance schedules**

- OEM Maintenance Manuals
- OEM Operating manuals
- Electrical schematics
- Electrical point of Feed
- Safety precautions

## **1.11 Procurement**

The contractor to obtain pre-approval for third party procurement to the employer for goods or service sourcing. All goods sourced on behalf of the employer are to be done as per contract and on agreed mark-up rates.

The Contractor will respect OEM warranties to the Employer 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 the Contractor uses or quotes 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 Project Manager on the quotation.

This also implies that the Contractor must build relationships with the various key OEMs.

The Contractor must adhere to all airport requirements regarding fire, health, and safety when procuring the replacement of sprinkler system 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 the sourcing and screening of such individuals.

### 1.12 Personnel:

Resource	Experience	Qualification	Units
<b>Technician</b>	More Than 2 years post qualification experience	Must be qualified and have a minimum of a National Diploma in Information Technology (IT), instrumentations, or Electronics.	1
<b>Electrical Engineer</b>	More Than 2 relevant experiences	Minimum B- Tech in Electrical Engineering/ B-Eng or BSC	1
<b>Technical Assistant</b>	Nil	N2	1
<b>Fitter or Millwright</b>	More than 3 post trade test experience	Trade plus N3	1

Minimum requirements of people employed on the Site

The contractor is to list of resources that are to be on site for this contract. A schedule of key personnel to this Contract (as per the Schedules) will be provided to the Project Manager at the commencement of this Contract. This will, as a minimum, include all persons from the technician level to the 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 upon with the Project Manager.

### 1.13 Subcontracting

#### Preferred subcontractors

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 were done so by the Contractor.

#### Limitations on Subcontracting

The Contractor may not subcontract more than 30% of the Work.

### **1.14 Plant and Materials**

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

The contractor to ensure that all plant and material meets minimum safety standard and are fit for purpose. All the costs related to collection, delivery, storage, inspection, care, and control of plant and Materials must be for the contractor. “all other Plant and Materials are to be provided by the Contractor”

#### **1.14.2 Contractor's procurement of Plant and Materials**

*The procurement and hiring of equipment that might be needed by the employer not specified in the scope should be purchased on cost-plus reimbursement basis on rates stipulated in the contract.*

#### **1.14.3 Tests and inspections before delivery**

All parts will be tested and delivered prior to installation. The contractor is responsible for ensuring that parts are for their purpose and must develop a sound testing mechanism for this purpose.

All plants and materials purchased by the contractor will be retained by the contractors at the end of the contract unless paid for by the employer. All hired equipment will be at cost plus mark up.

#### **1.14.4 Plants and Materials outside the Working Areas**

The Contractor is to “mark” Plant and Materials which is outside the Working Areas if they are to be paid for before delivery to the Working Areas, as required by core clauses 70.1 and 71.1]

*Contractor's Equipment (including temporary works)*

*[state any requirements that may be specific to the type of works being performed]*

## **1.15 Construction**

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 airport operations Re-scheduling of work to accommodate other contractors
- Allowing access and aiding OEM suppliers to correct defects on equipment and/or systems
- Communicating with the current service provider to reduce risk to passenger loading bridges
- Providing access to other contractors
- Removing scrap from the site
- Recommending improvements on maintenance procedures
- Safe/legal disposal of used and irreparable spares.

The Project Manager may instruct operationally 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.

Temporary works, Site services & construction constraints

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

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

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:**

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

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

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

**Title to materials from demolition and excavation**

N/A

**Contractor's Equipment**

Equipment provided by the *Employer*

Employer to provide temporal storage for parts and material at no cost. The contractor is to be responsible for the security and safekeeping of materials and parts. And equipment.

**Site services and facilities provided by the *Employer*<sup>1</sup>****Facilities provided by the *Contractor***

The contractor is to keep records of all equipment, its record of service, and purchase date on site.

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

All measuring tools material and other materials specified in the bill of quantities, consumables, tools, and equipment required to execute the project. The facilities Contractor is to provide their own accommodation, storage, vehicles, and office equipment. all facilities provided by the contractor at their own cost should be the property of the contractor unless paid for by the employer. setting out of the works

The contractor to make provision in the pricing for site establishment and setting up.

<sup>1</sup> 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', but ALWAYS state "the Contractor shall provide everything else necessary for Providing the Works".

Setting out of the *works*

## **1.16 Site conditions and requirements**

All work that will require hot work must be done with prior approval of hot work permits. No grinding and welding are to be done on-site without approval. All work that will result in dust creation must be pre-approved to be done after the last flights.

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 stormwater systems
- interfere with, or put at risk, the functionality of any system or service
- cause a fire or safety hazard
- cause traffic with airport users

The Contractor will be required to do housekeeping and will be required to clear site and dispose of old material.

Construction requirements

## **1.17 Construction requirements**

Installation and decommissioning procedure to be provided by the Contractor and approved by the Employer (Project Manager). The program clearly shows the sequence of activities, timelines, and resource allocations.

Completion, testing, commissioning, and correction of Defects

Work to be done by the Completion Date

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 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 certified

Core clause 35.2 provides that 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 except if the use is for a reason stated in the Works Information. The contractor is to allow the or part acceptance of work to ensure the continuation of service without jeopardising the works warranties.

Materials facilities and samples for tests and inspections

N/A

### **1.18 Commissioning**

To be conducted after installation and successful testing of the system, no work will be accepted without proper commissioning. The contractor is to provide the commissioning procedure.

Start-up procedures required to put the works into operation

Isolation and start-up are to be performed by the contractor as part of the project.

Take over procedures

Final handover from the Contractor to the Project Manager to be done once all the works have been completed and agreed upon.

Access is given by the Employer for correction of Defects

core clause 43.4 requires that 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 will require the Contractor to ensure that all isolation, barricades, and signs are removed, and all the equipment is ready to be safely used.

Performance tests after Completion

The contractor to provide the testing methods and procedures to ensure that products are delivered at a good state and fit for purpose.

Operational maintenance after Completion

The contractor not to include cost of maintenance as part of this contract but to allow for warranties and defects free period and latent defects.

### **1.19 Plant and Materials standards and workmanship**



Barricading controls shall be implemented by the Contractor and authorised as part of the safe work system to protect persons from hazards such as:

- being struck by falling objects.
- fall from height, including falling into open excavations, penetrations, and falls from unprotected edges such as removed flooring, walkways, stairs and / or hand railings.
- unauthorised entry into a confined space or work area; and
- any potentially hazardous work processes, for example, hot works, scaffolding, radiation work and work involving asbestos.
- Barricading controls shall also be implemented and authorised as part of the incident management and emergency response procedures.
- It shall be ensured that safety signs are erected by the Contractor to warn workers of specific hazards and to communicate necessary precautionary measures and emergency actions.

#### **The investigation, survey, and Site clearance**

N/A

#### **1.19.1 Building works**

N/A

#### **Civil engineering and structural works**

N/A

#### **Electrical & mechanical engineering works**

The contractor is to make sure that all electrical appliances are treated as live unless verified for isolation. All isolation is to be done in conjunction with the Electrical department. All systems provided are to be in line with SABS about electrical supplies and protections. The contractor is to take note of unstable power supply and make provisions for surge protection and uninterrupted power supply.

#### **1.19.2 Process control and IT works**

The contractor is to make sure that the new units are fully compatible with existing hardware prior to installation and are tested for compatibility.

## 1.20 List of drawings

### 1.1. Drawings issued by the *Employer*

Drawing number	Revision	Title
	01	Bridge Layout
	01	Electrical layout
	01	Bridge Schematics
	01	PBB wiring
	01	Components layout
	01	Electrical Schematic

## 1.21 C3.2 Contractor's Works Information

The service contractor is to supply the Ground Power unit that is to be installed on the passenger Boarding Bridges to retain the status of the installation. The ground Power unit can allow for 400% overload which means that it can be used for all types of aircraft from the narrow-body to the wide-body including B787/A350/A380.

The upgrade version of units must be designed to accommodate voltage imbalance and phase displacement at the aircraft connector.

The output voltage quality of the new units which must accommodate the "Plug & Play" system, must be designed to fulfil the coming ISO 6858 standard that requires max. phase unbalance of less than 4 V and a phase angle of 120° 2.5%. with a voltage of the 3 phases at 35% unbalanced load @ PF 0.8 by use of a typical flexible cable consisting of 65 m of 7x35 mm<sup>2</sup> installation cable and 26 m of 4x70 mm<sup>2</sup> flexible cable.

The GPU Power Coil unit should be able to offer a highly reliable and robust design including a front plate in stainless steel. The contractor to supply units that have improved cable guidance system that ensures easy and smooth cable handling.

### The cable rolling System

The units should come with a cable that is between 24 m and 28 M (useable length). The cable should be able to be rolled completely into the housing after use for protection purposes. The rolling of the cable should automatically stop when the plug head reaches the lower edge of the Power Coil. The cable drum should have an Electromechanical System with:

- Cable drum with spiral cable trace
- 1,1 kW gear motor
- VFD for gear motor
- Coiling speed 40 m/min

### Miscellaneous and General appearances:

The unit must be able to stand high humidity and acidic environment in all aspects including bolts, nuts, brackets, and covers:

All covers must be hot dipped galvanised, and powder coated. The thickness of zinc should not be less than 60 microns on covers and not less than 80 microns on supporting structures.

All bolts and nuts and hinges are to be stainless steel

All covers are to be rubbers sealed on the edges, to prevent water and moisture ingress.

- **Colour:** RAL 7035 or any other colour recommended by the OEM
- **The Weight** of units should not exceed 700 kg (1,543 lbs.), should it happen that the contractor supplies units that are over this limit, load testing will need to be conducted on PBB to confirm structural integrity.

#### 1.21.1 Standards:

ISO 6858 Aircraft ground support electrical supplies - general requirements

BS 2G 219 General requirements for ground support electrical supplies for aircraft

SAE ARP 5015 Ground equipment – 400 Hz ground power performance requirement

MIL-704E Aircraft electric power characteristics

DFS 400 Specification for 400 Hz aircraft power supply

EN2282 Aerospace series characteristics of aircraft electrical supplies

EMC & Safety standards

The New Unit should meet the following minimum specification:

#### GPU Detailed Specification

Specifications for GPU Output	Protection	Overload Ratings
• Power: 90 kVA PF 0,8-1	• Protection class: IP55	• 125% for 600 seconds
• Voltage: 3 x 115/200 V	• No break power transfer	• 150% for 60 seconds
• Frequency: 400 Hz 0,1 %	• Over/under voltage at the output	• 200% for 30 seconds
• Power factor: 0,7 lagging to 0,95 leading	• Overload	• 300% for 10 seconds
• Voltage regulation: <0,5% for balanced and up to 30% unbalanced loads	• Internal high temperature	• 400% for 1 second
• Voltage recovery: $\Delta < 8\%$ and rec. time <10 m/s at 100% load change	• Control voltage error	
• Total harmonic content:	• Short circuit at the output	
<2% at linear load (typ. 1,5%)	• GPU Enable	
<2% at nonlinear load according to ISO 1540	• 90% switch interlock	
• Crest factor: 1,414 3%	• Neutral voltage supervision	
• Voltage modulation: <1,0%	• Broken neutral supervision	
• Phase angle symmetry:	• Leakage current supervision	
120° 1° for balanced load		
120° 2° for 30% unbalanced load.		
Efficiency	Cable/Connector	
• Overall efficiency:		
0,94 at 35-90 kVA load PF 0,8	• Special twisted highly flexible	
0,90 at 25 kVA load PF 0,8	cable harness for power transfer	
• Stand by losses: 65 W	from fixed part to moving part	
• No load losses: 2,2 kW	• 24 m (79 ft) or 28 m (92 ft) flexible	
	composite cable	
	• Aircraft connector with:	
	- Start/stop push buttons	
	- Cable IN/OUT push buttons	
	- Replaceable pins & front	
	- Indication LEDs*	
	- Split F-pin	

#### 1.21.2 SAFETY FEATURES:

## 1.22 PART C4: SITE INFORMATION

- Protective covers behind access doors to prevent accidental exposure to “live” parts
- Supervision of neutral conductor rupture & leakage current
- Supervision of neutral voltage
- Detection of hazardous voltages at aircraft frame (by supervision of interlock voltage)
- Avoidance of hazardous voltages in control wires through prevention of insulation failures in cable or plug

1.23 The following are locations where the work will be performed. Zone no.	General Location	1.24 Specific Location
1.25 1	Airside Alpha Apron	1.26 (alongside Terminal building (perpendicular to Alpha Apron Bridges 05, 06, 07, 08. 09. 10. 11.12, 13,14,15,16)
1.27 2	Airside Charlie Apron	1.28 Charlie Apron (Bridges 1, 2, 3 & 4, and along the terminal building).

## 1.29 Description of the Site and its surroundings

The mission of Airports Company South Africa SOC Ltd (ACSA) is to develop and manage world-class airports for the benefit of all stakeholders.

The Company's strategy is built on collaborative and coherent engagements with its stakeholders. The Company focuses on strengthening its internal business processes and making the most of its bespoke information technology. ACSA directs its efforts toward improving its employees' skills and understanding as part of its effort to build human capital.

About King Shaka International Airport:

King Shaka International Airport (IATA: DUR, ICAO: FALE), abbreviated KSIA, is the primary international airport serving Durban, South Africa. Located in La Mercy, KwaZulu-Natal, approximately 35 km (22 minutes) north of the city centre of Durban.

*The airport opened its doors to passengers on 1st May 2010, a month, and 11 days before the start of the 2010 FIFA World Cup.*

Airport type      Public

Owner- Airports Company South Africa

Serves Durban, South Africa

**Location** La Mercy, KwaZulu-Natal, South Africa

**Focus** Durban City

**Elevation AMSL** 93 m / 304 ft

**Coordinates** 29°37.0'S 031°6.5'ECoordinates: 29°37.0'S 031°6.5'E

**Website** [airports.co.za](http://airports.co.za)



**Annexure B**

<b>Risk</b>	<b>Risk Description</b>	<b>Risk Rating</b>	<b>Mitigating Factors</b>	<b>Risk Owner</b>
<b>Scope Crip</b>	<b>The unclear scope from the employer to the bidders</b>	<b>Medium</b>	<b>Site Briefing and RFP process</b>	<b>Employer</b>
<b>Project Delay</b>	<b>Delay in the sourcing of spares</b>	<b>Medium</b>	<b>Bidders are to obtain commitment letters from the OEM at the bidding stage</b>	<b>Contractor</b>
<b>Environmental</b>				
<b>Equipment corrosion</b>	<b>Material supplied not conducive for an acidic environment and coastal installation</b>	<b>High</b>	<b>Restriction on equipment protection. Galvanizing certificate and warranties</b>	<b>Contractor</b>
<b>Construction Risk</b>				
<b>Electrocution</b>	<b>Injuries due power and electrical works</b>	<b>Medium</b>	<b>Isolation and lock out procedure to be pre-approved</b>	<b>Employer and Contractor</b>
<b>Trip and Fall</b>	<b>Falling due to high rise areas</b>	<b>Low</b>	<b>All high-rise work to be done with the use of a cherry picker, cherry picker drivers to be trained, high rise work training to be part of the safety file</b>	<b>Contractor</b>

The contractor to add more work-related risk in the safety file as part of work methodology

**1.30 Annexure B Spares List**

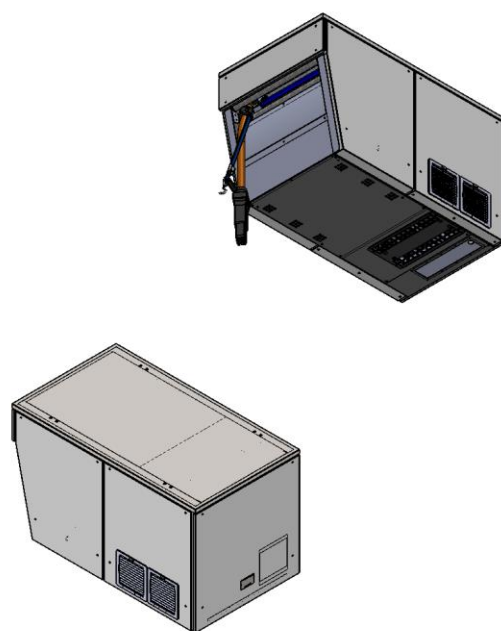
<b>Parts Description</b>	<b>Qty</b>
Control Board	2
Interface Board	2



Display	2
Operator Membrane Keyboard 400 Hz	2
Capacitor Board	2
Output RFI board	2
Split-pin Board	2
Capacitor 300 $\mu$ F 5%, 180 VAC	3
Capacitor 0,47 $\mu$ F 500 VAC 5%	3
ATO fuse 10 A	7
ATO fuse 5 A	7
ATO fuse 2 A	7
Anti-Condensation Heater	3
Power Supply 24 VDC, 10.0 A	5
DC Converter (UL Only)	3
Relay Module CE 24V, 1 Contact	4
Relay Module UL 24V, 2 Contacts	4
Magnetics Assembly - CE 90 kVA, 400 VAC	2
Magnetics Assembly - UL 90 kVA, 460 VAC	3
Fan 24 VDC (16-36 VDC)	4
Worm-gear Motor CE 1,1 kW 080 1500 Rpm	2
Worm-gear Motor UL 1,1 kW 080 1500 Rpm	2
Power Module 90 kVA - CE 90 kVA	4
Power Module 90 kVA - UL 90 kVA	4
Breaker Handle	4
Input Disconnect – CE 3 Pol. / 160 A	6
Input Disconnect – UL 3 Pol. / 200 A	6
Contactactor 24 VDC Coil	2
Frequency Converter 3x400/480 V, 1.5 kW	2
Circuit Breaker 6 A / 3 Pol	5
Contactactor 24 VDC Coil	2
Varistor V25S115P	2
Emergency Stop, Compact	4
Limit Switch	4
Current Transformer 70 A, 500:1	4
I/O Terminals	2
Air Filter	6
Cable Strain Relief Kit	1
Cover for IO-Zone	3
Flexible Power & Contr. Cables With cable drum temp. UL	1
Flexible Power & Contr. Cables Without cable drum temp. CE	1
Cable Guide Assembly	1
House for Linear Bearing	1
Drum Roll	1
Polycarbonate Keyboard Cover	2
Frame for Cover RAL 9005 Black	2

Painted Control Box RAL 7035	2
Inside Polycarbonate Cover Polycarbonate plate	2
Locking Brick for Emergency Stop 1,5 mm	2
Cable with SUB-DB9 30 m, DB9-M/F	2

### 1.31 Annexure C – Power coil unit Pictures



## 1.32 Annexure D- Pricing Schedules

Project costing					
<b>Pricing Schedule A- Preliminaries</b>					
	Permits	13 000	1	R	13 000.00
	Induction	15000	1	R	15 000.00
	Site Establishment	20000	1	R	20 000.00
<b>Preliminaries subtotal</b>				<b>R</b>	<b>48 000.00</b>
Admin cost				R	-
<b>Sub Total Price A</b>				<b>R</b>	
<b>Pricing Schedule B</b>					
	Traveling and accommodation		1	R	-
<b>Unit cost</b>					
GPU		Rate	Qty		
Price for the complete pack including cable, brackets, plugs, brackets, bolts, and nuts	GPU unit price-		20 GPUs	R	-
<b>Installation costs subtotal</b>				<b>R</b>	<b>-</b>
Labour Cost					-
Decommissioning				R	-
Installation				R	-
Commissioning, training, and testing				R	-
<b>Labour Cost- subtotal</b>				<b>R</b>	<b>-</b>
Other					
	Drawings		20	R	-
	Certification		20	R	-
Another cost and unforeseen				<b>R 150 000</b>	
<b>Sub Total Price B</b>				<b>R</b>	<b>-</b>

**Please note:** price includes all labour, consumables, and PPEs.

**Pricing Schedule- Labour Rates** (Not to be included in the price, this is for contract purposes to be used for Ad-hoc work)

Unit	Normal rates	Hours	After rates	hours	Saturday rates	Sunday and public holidays.
Project manager						
Instrument Technician						
Millwright						
Electrician						
Technical Assistant						

**Mark up on bought-out ITEMS in percentage**

R0 – R 5000	%
R 5000 – R50 000	%
R 50 000- R 200 000	%
R 200 000 and above	%

**1.32.1 Pricing Schedule D- Cost of Spares**

Parts Description	Rates	Qty	Cost
Control Board		2	
Interface Board		2	
Display		2	
Operator Membrane Keyboard 400 Hz		2	
Capacitor Board		2	
Output RFI board		2	
Split-pin Board		2	
Capacitor 300 $\mu$ F 5%, 180 VAC		3	
Capacitor 0,47 $\mu$ F 500 VAC 5%		3	
ATO fuse 10 A		7	
ATO fuse 5 A		7	
ATO fuse 2 A		7	
Anti-Condensation Heater		3	
Power Supply 24 VDC, 10.0 A		5	
DC Converter (UL Only)		3	
Relay Module CE 24V, 1 Contact		4	
Relay Module UL 24V, 2 Contacts		4	
Magnetics Assembly - CE 90 kVA, 400 VAC		2	
Magnetics Assembly - UL 90 kVA, 460 VAC		3	

Fan 24 VDC (16-36 VDC)		4	
Worm-gear Motor CE 1,1 kW 080 1500 Rpm		2	
Worm-gear Motor UL 1,1 kW 080 1500 Rpm		2	
Power Module 90 kVA - CE 90 kVA		4	
Power Module 90 kVA - UL 90 kVA		4	
Breaker Handle		4	
Input Disconnect – CE 3 Pol. / 160 A		6	
Input Disconnect – UL 3 Pol. / 200 A		6	
Contactors 24 VDC Coil		2	
Frequency Converter 3x400/480 V, 1.5 kW		2	
Circuit Breaker 6 A / 3 Pol		5	
Contactors 24 VDC Coil		2	
Varistor V25S115P		2	
Emergency Stop, Compact		4	
Limit Switch		4	
Current Transformer 70 A, 500:1		4	
I/O Terminals		2	
Air Filter		6	
Cable Strain Relief Kit		1	
Cover for IO-Zone		3	
Flexible Power & Contr. Cables With cable drum temp. UL		1	
Flexible Power & Contr. Cables Without cable drum temp. CE		1	
Cable Guide Assembly		1	
House for Linear Bearing		1	
Drum Roll		1	
Polycarbonate Keyboard Cover		2	
Frame for Cover RAL 9005 Black		2	
Painted Control Box RAL 7035		2	
Inside the Polycarbonate Cover Polycarbonate plate		2	
Locking Brick for Emergency Stop 1,5 mm		2	
Cable with SUB-DB9 30 m, DB9-M/F		2	
<b>Sub Total Cost</b>			<b>R</b>

### 1.32.2 Annexure E- Summary of Price

Pricing Schedule A – Prefeasibility	R
Pricing Schedule B- Installation cost	R

Pricing Schedule C- parts and spares	R
<b>Total Price Excl. Vat</b>	R
<b>Value Added Tax (VAT)</b>	R
<b>Total Price Incl. Vat (This amount must be transferred to the C1.1 Form of Offer)</b>	R