



NEC3 Engineering & Construction Contract

**Between Airports Company South Africa
(Registration no: 1993/004149/06)**

**and
(Reg No. _____)**

**for Maintenance and Repairs to Medium Voltage
Electrical Infrastructure: Switchgears, Power Factor
Correction System, Transformers, Ring Main Units,
Mini-Substations, Cables at O.R Tambo International
Airport for a Period of Three (3) Years.**

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CONTRACT No.

Part C1: Agreements & Contract Data

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AIRPORTS COMPANY SOUTH AFRICA SOC LIMITED

CONTRACT NUMBER _____

MAINTENANCE AND REPAIRS TO MEDIUM VOLTAGE ELECTRICAL INFRASTRUCTURE: SWITCHGEARS, POWER FACTOR CORRECTION SYSTEM, TRANSFORMERS, RING MAIN UNITS, MINI-SUBSTATIONS, CABLES AT O.R TAMBO INTERNATIONAL AIRPORT FOR A PERIOD OF THREE (3) YEARS.

C1.1 Form of Offer & Acceptance

Offer

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

MAINTENANCE AND REPAIRS TO MEDIUM VOLTAGE ELECTRICAL INFRASTRUCTURE: SWITCHGEARS, POWER FACTOR CORRECTION SYSTEM, TRANSFORMERS, RING MAIN UNITS, MINI-SUBSTATIONS, CABLES AT O.R TAMBO INTERNATIONAL AIRPORT FOR A PERIOD OF THREE (3) YEARS.

The tenderer, identified in the Offer signature block, has examined the documents listed in the Tender Data and addenda thereto 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 exclusive of VAT is	R
Value Added Tax @ 15% is	R
The offered total of the amount due inclusive of VAT is	R
(in words)	

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 tenderer:

(Insert name and address of organisation)

Name & signature of witness

Date

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Tenderer's CIDB registration number:



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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 at, or just after, the date this agreement comes into effect. Failure to fulfil any of these obligations in accordance with those terms shall constitute a repudiation of this agreement.

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

Signature(s)

Name(s)

Capacity

for the Employer

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

Name & signature of witness

Date



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Note: If a tenderer wishes to submit alternative tenders, use another copy of this Form of Offer and Acceptance.



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Schedule of Deviations to be completed by the *Employer* prior to contract award

Note:

1. This part of the Offer & Acceptance would not be required if the contract has been developed by negotiation between the Parties and is not the result of a process of competitive tendering.
2. The extent of deviations from the tender documents issued by the Employer prior to the tender closing date is limited to those permitted in terms of the Conditions of Tender.
3. A tenderer’s covering letter must not be included in the final contract document. Should any matter in such letter, which constitutes a deviation as aforesaid be the subject of agreement reached during the process of Offer and Acceptance, the outcome of such agreement shall be recorded here and the final draft of the contract documents shall be revised to incorporate the effect of it.

No.	Subject	Details
1		
2		
3		
4		
5		
6		
7		

By the duly authorised representatives signing this Schedule of Deviations below, the Employer and the tenderer agree to and accept this Schedule of Deviations as the only deviations from and amendments to the documents listed in the Tender Data and any addenda thereto listed in the Tender Schedules, as well as any confirmation, clarification or changes to the terms of the Offer agreed by the tenderer and the Employer during this process of Offer and Acceptance.

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

For the tenderer:

For the Employer

Signature _____

Name _____

Capacity _____

On behalf of *(Insert name and address of organisation)*

(Insert name and address of organisation)

Name & signature of witness _____



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Date

.....

.....

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C1.2 ECC3 Contract Data

Part one - Data provided by the *Employer*

Clause	Statement	Data
1	General	
	The <i>conditions of contract</i> are the core clauses and the clauses for main Option	
	dispute resolution Option and secondary Options	<p>A: Priced contract with activity schedule</p> <p>W1: Dispute resolution procedure</p> <p>X7: Delay damages</p> <p>X13: Performance Bond</p> <p>X18: Limitation of liability</p> <p>Z: Additional conditions of contract</p>
	of the NEC3 Engineering and Construction Contract, April 2013 (ECC3)	
10.1	The <i>Employer</i> is (Name):	Airports Company South Africa SOC Limited (reg. no: 1993/004149/06), a juristic person incorporated in terms of the company laws of the Republic of South Africa
	Address	Registered office at OR Tambo International Airport
10.1	The <i>Project Manager</i> is: (Name)	Yanga Ralarala
	Address	Airports Company South Africa O R Tambo International Airport ACSA Admin Building 3rd Floor North Wing Offices Kempton Park 1627



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	Tel	TBC
	e-mail	Yanga.Ralarala@airports.co.za
10.1	The <i>Supervisor</i> is: (Name)	Yanga Ralarala
	Address	Aiports Company South Africa O R Tambo International Airport ACSA Admin Building 3 rd Floor North Wing Offices Kempton Park 1627
	Tel No.	
	e-mail	Yanga.Ralarala@airports.co.za
11.2(13)	The <i>works</i> are	Maintenance and Repairs to Medium Voltage Electrical Infrastructure: Switchgears, Power Factor Correction System, Transformers, Ring Main Units, Mini-Substations, Cables at O.R Tambo International Airport for a Period of Three (3) Years.
11.2(14)	The following matters will be included in the Risk Register	Project delays – contract signing, material delivery, access to substation
11.2(15)	The <i>boundaries of the site</i> are	OR Tambo International Airport
11.2(16)	The Site Information is in	Part 4: Site Information
11.2(19)	The Works Information is in	Part 3: Scope of Work and all documents and drawings to which it makes reference.
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 for reply</i> is	1 week
2	The Contractor's main responsibilities	Data required by this section of the core clauses is provided by the <i>Contractor</i> in Part 2 and terms in italics used in this section are identified elsewhere in this Contract Data.
3	Time	
11.2(3)	The <i>completion date</i> for the whole of the <i>works</i> is	A period of 3 years from the Starting Date

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11.2(9)	The <i>key dates</i> and the <i>conditions</i> to be met are:	Condition to be met	key date
		1 Project Completion	3 years from the <i>Starting Date</i> .
30.1	The <i>access dates</i> are:	Part of the Site	Date
		1 Airfield, Cargo & Terminal Building	24 Hours 7 days a week
31.1	The <i>Contractor</i> is to submit a first programme for acceptance within	2 weeks of the Contract Date.	
31.2	The <i>starting date</i> is	Date when ACSA representative signs the contract	
32.2	The <i>Contractor</i> submits revised programmes at intervals no longer than	2 weeks.	
35.1	The <i>Employer</i> is not willing to take over the <i>works</i> before the Completion Date.		
4	Testing and Defects		
42.2	The <i>defects date</i> is	52 weeks after Completion of the whole of the works.	
43.2	The <i>defect correction period</i> is	4 weeks	
47	The Contractor submits a quality plan for acceptance within:	2 weeks of the Contract Date.	
5	Payment		
50.1	The <i>assessment interval</i> is	between the 20th day of each successive month.	
51.1	The <i>currency of this contract</i> is the	South African Rand.	
51.2	The period within which payments are made is	30 days from date of invoice.	
6	Compensation events		
60.1(13)	The place where weather is to be recorded is:	OR Tambo International Airport	
	The <i>weather measurements</i> to be recorded for each calendar month are,		



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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 the number of days with snow lying at 09:00 hours South African Time and these measurements:

The *weather measurements* are supplied by

National Weather Bureau of SA

The *weather data* are the records of past *weather measurements* for each calendar month which were recorded at:

OR Tambo International Airport

and which are available from:

the South African Weather Bureau and included in Annexure A to this Contract Data provided by the Employer

60.1(13)	Assumed values for the ten year return <i>weather data</i> for each <i>weather measurement</i> for each calendar month are:	As stated in Annexure A to this Contract Data provided by the Employer.
7	Title	There is no reference to Contract Data in this section of the core clauses and terms in italics used in this section are identified elsewhere in this Contract Data.
8	Risks and insurance	
80.1	These are additional <i>Employer's</i> risks	1. Project delays 2. Unavailability of servitudes drawings 3. Working on medium voltage apparatus
81.1	The Contractor's Risk	Add: <i>Definition of Force Majeure -</i> <i>The following additional conditions must satisfied:</i> <i>(1) The Contractor has engaged with the persons responsible for the riot, commotion, disorder, strike or lockout; has met with the persons or leaders; and has recorded the persons or leaders details, their grievances, the organisations involved, all threats made; and has requested the persons or leaders to cease all unlawful conduct; and</i>



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		<p>(2) <i>The Contractor has obtained proof of the riot, commotion, disorder, strike or lockout, and of any unlawful conduct; and</i></p> <p>(3) <i>The Contractor has reported all threats and unlawful conduct to the South African Police Service; and</i></p> <p>(4) <i>The Contractor has brought an urgent application to the court on an ex parte basis that correctly identify the respondents and define the unlawful conduct to be interdicted; and</i></p> <p>(5) <i>The Contractor has ensured that the court order is enforced.</i></p>
84.1	The <i>Employer</i> provides these insurances from the Insurance Table	See Annexure D to this Contract Data provided by the Employer.
84.1	The <i>Employer</i> provides these additional insurances	The terms and other matters applicable to these insurances provided by the Employer (and to insurances generally) are detailed in the insurance schedule attached as section C1.4 to the contract ("the insurance Schedule)
84.2	The minimum limit of indemnity for insurance in respect of loss of or damage to property (except the <i>works</i> , Plant, Materials and Equipment) and liability for bodily injury to or death of a person (not an employee of the <i>Contractor</i>) caused by activity in connection with this contract for any one event is	Whatever the <i>Contractor</i> deems necessary in addition to that provided by the <i>Employer</i>.
84.2	The minimum limit of indemnity for insurance in respect of death of or bodily injury to employees of the <i>Contractor</i> arising out of and in the course of their employment in connection with this contract for any one event is	As prescribed by the Compensation for Occupational Injuries and Diseases Act No. 130 of 1993 and the <i>Contractor's</i> common law liability for people falling outside the scope of the Act
9	Termination	There is no reference to Contract Data in this section of the core clauses and terms in italics used in this section are identified elsewhere in this Contract Data.
10	Data for main Option clause	
A	Priced contract with activity schedule	There is no reference to Contract Data in this Option and terms in italics are identified elsewhere in this Contract Data.

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11 Data for Option W1		
W1.1	The <i>Adjudicator</i> is (Name)	The person selected from the panel of adjudicators listed in Annexure C of this Contract Data, by the party intending to refer a dispute to him.
	Address	TBC
	Tel No.	TBC
	Fax No.	TBC
	e-mail	TBC
W1.2(3)	The <i>Adjudicator nominating body</i> is:	The Chairman of the Johannesburg Society of Advocates, or his successor or his nominee.
W1.4(2)	The <i>tribunal</i> is:	Arbitration.
W1.4(5)	The <i>arbitration procedure</i> is	The latest edition of Rules for the Conduct of Arbitrations published by The Association of Arbitrators (Southern Africa) or its successor body.
	The place where arbitration is to be held is	In the city where the Site is located, within South Africa.
	The person or organisation who will choose an arbitrator	
	- if the Parties cannot agree a choice or	the Chairman for the time being or his nominee of
	- if the arbitration procedure does not state who selects an arbitrator, is	the Association of Arbitrators (Southern Africa) or its successor body.
12 Data for secondary Option clauses		
X7	Delay damages (but not if Option X5 is also used)	
X7.1	Delay damages for Completion of the whole of the <i>works</i> are	Amount per day is 0.05% of the contract value, up to the maximum of 10% of the contract value
X13	Performance bond	
X13.1	The amount of the performance bond is	10% of Contract value excluding VAT.
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:	R 0

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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:	Total of the losses incurred and/or repairs to the damages caused
X18.3	The <i>Contractor's</i> liability for Defects due to his design which are not listed on the Defects Certificate is limited to	Total of the losses incurred and/or repairs to the damages caused
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:	<p>The total of the losses incurred and/or repairs to the damages caused other than for the additional excluded matters.</p> <p>The <i>Contractor's</i> total liability for the additional excluded matters is not limited.</p> <p>The additional excluded matters are amounts for which the <i>Contractor</i> is liable under this contract for</p> <ul style="list-style-type: none"> • Defects due to his design which arise before the Defects Certificate is issued, • Defects due to manufacture and fabrication outside the Site, • loss of or damage to property (other than the <i>works</i>, Plant and Materials), • death of or injury to a person; • damage to third party property; and • infringement of an intellectual property right.
X18.5	The <i>end of liability date</i> is	The date on which the liability in question prescribes in accordance with the Prescription Act No. 68 of 1969 (as amended or in terms of any replacement legislation) for any other matter.
Z	The <i>Additional conditions of contract</i> are	Z1 to Z24 below.

AMENDMENTS TO THE CORE CLAUSES

Z1 Interpretation and the law

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

Z1.2 Add the following as a new core clause 12.5:



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- Z1.2.1** In this contract:
- Z1.2.1.1** references to any Party to the Contract include its successors or permitted assigns;
- Z1.2.1.2** references to the Contractor include the obligations of its personnel;
- Z1.2.1.3** the references to the provisions of any law include such provisions as amended, re-enacted or consolidated from time to time in so far as such amendment, re-enactment or consolidation applies or is capable of applying to any works under this Contract;
- Z1.2.1.4** references to this Contract and any deed, Contract or instrument are deemed to include references to this Contract or such other deed, agreement or instrument as amended, novated, supplemented, varied or replaced from time to time;
- Z1.2.1.5** references to a "person" include a natural person, company or any other artificial person or other corporate entity, a charity, trust, partnership, joint venture, syndicate, or any other association of persons;
- Z1.2.1.6** references to "month" means a calendar month;
- Z1.2.1.7** headings are for convenience only and are not taken into consideration in the interpretation of the Contract;
- Z1.2.1.8** where any number of days is prescribed, those days are reckoned exclusively of the first and inclusively of the last day unless the last day falls on a day that is not a working day, in which event the last day is the next succeeding working day;
- Z1.2.1.9** any provision in Contract that is or may become illegal, invalid or unenforceable in any jurisdiction is ineffective to the extent of such prohibition or unenforceability in such jurisdiction and is treated as severed from the balance of Contract in such jurisdiction, without invalidating the remaining provisions of Contract in such jurisdiction or affecting it in any other jurisdiction;
- Z1.2.1.10** references to any amount means that amount exclusive of VAT, unless the amount expressly includes VAT;
- Z1.2.1.11** the rule of construction that if general words or terms are used in association with specific words or terms that are a species of a particular genus or class, the meaning of the general words or terms shall be restricted to that same class shall not apply, and whenever the word "including" is used followed by specific examples, such examples shall not be interpreted so as to limit the meaning of any word or term to the same genus or class as the examples given;
- Z1.2.1.12** the rule of construction that the Contract is interpreted against or to the disadvantage of the party responsible for the drafting or preparation of Contract does not apply;
- Z1.2.1.13** words and abbreviations that have well known technical or trade meanings are used in the Contract in accordance with such recognized meanings;
- Z1.2.1.14** references to a "*subsidiary*" or a "*holding company*" is references to a direct or indirect subsidiary or holding company as defined in the law of the jurisdiction of the place of incorporation of the company that has a subsidiary or holding company and "*affiliate*" is any company that is under common control with such subsidiary or holding company;



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- Z1.2.1.15** time is of the essence in the performance of the parties' respective obligations.
- Z2 The Project Manager and Supervisor: add the following at the end of core clause 14.2:**
- Z2.1** The Project Manager and the Supervisor may take an action which they have delegated.
- Z3 Early Warning: add the following at the end of core clause 16.2:**
- Z3.1** The Contractor ensures that a subcontractor attends risk reduction meeting if its attendance would assist in deciding the actions to be taken.
- Z4 Providing the Works: Delete core clause 20.1 and replace with the following:**
- Z4.1** The *Contractor* 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 as stated in the Works Information, and if no such purposes is stated, the ordinary purpose of the Works.
- Z5 Subcontracting:**
- Z5.1 The following clause is added as a new core clause 26.4:** "Within 5 days of request by the *Project Manager*, the Contractor provides proof to the *Project Manager* that the Contractor's payment obligations towards its Subcontractors have been discharged. Failure by the Contractor to provide such proof to the satisfaction of the *Project Manager* entitles the *Employer* to instruct the *Project Manager* to certify payment directly to any such Subcontractor and the *Contractor* shall have no recourse to recover such amounts from the *Employer*. Such direct payment do not create privity of contract between the Employer and such Subcontractor. The *Employer* may recover such direct payment from the *Contractor*."
- Z6 Other responsibilities: add the following at the end of core clause 27:**
- Z6.1** The *Contractor* has 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.
- Z6.2** The *Contractor* is responsible for the correct setting out of the *Works* in accordance with the original points, lines and levels stated in the *Works* Information or notified by the *Project Manager*, *Supervisor* or the *Employer*. Any errors in the positioning of the *Works* are rectified by the *Contractor* at the *Contractor's* own costs.
- Z7 Acceleration: add the following new provisions at the end of core clause 36:**
- Z7.1** The Project Manager's reply is either:
- Z7.1.1** A notification that the quotation is accepted, in which case, the *Project Manager* changes the Prices, Completion Date and Key Dates and accepts the revised programme; or
- Z7.1.2** A notification that the quotation is not accepted and that the Prices, Completion Date and Key Dates are not changed.
- Z8 Extending the defects date: add the following as a new core clause 46:**



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- Z8.1** If the *Employer* cannot use the *works* due to a Defect, which arises after Completion and before the *defects date*, the *defects date* is delayed by a period equal to that during which the *Employer*, due to a Defect, is unable to use the *works*.
- Z8.2** If part of the *works* is replaced due to a Defect arising after Completion and before the *defects date*, the *defects date* for the part of the *works* which is replaced is delayed by a period equal to that between Completion and the date by when the part has been replaced.
- Z8.3** The *Project Manager* notifies the *Contractor* of the change to a *defect date* when the delay occurs. The period between Completion and an extended *defects date* does not exceed twice the period between Completion and the *defects date* stated in the Contract Data.
- Z9** **Quality Management System: add the following as a new core clause 47:**
- Z9.1** The *Contractor* implements and maintains a quality management system with the requirements stated in the Works Information.
- Z9.2** Within the period stated in the Contract Data, the *Contractor* provides the *Project Manager* with a quality plan for acceptance. A reason for not accepting the quality plan is that it does not allow for the *Contractor* to Provide the Works.
- Z9.3** If any changes are made to the quality plan, the *Contractor* provides the *Project Manager* with the changes quality plan for acceptance.
- Z9.4** The *Project Manager* may instruct the *Contractor* to correct a failure to comply with the quality plan. This instruction is not a compensation event.
- Z10** **Assessing the amount due:**
- Z10.1** **Delete the second bullet point of core clause 50.1 and replace with the following:** “within thirteen weeks of termination of this Contract”
- Z11** **Final assessment: add the following as a new core clause 53:**
- Z11.1** The *Project Manager* makes a final assessment and certifies final payment in accordance with the Contract. The final payment is made within four weeks of the assessment.
- Z11.2** An assessment of the final amount due is conclusive evidence of the final amount due under or in connection with the Contract, unless a Party raises a dispute in relation to the assessment of the final amount due.
- Z11.3** The assessment of the final amount due is changed to include any agreement the Parties reached and/or a decision of the Adjudicator which has not been referred to the tribunal within four weeks of that decision. The changed assessment becomes conclusive evidence of the final amount due under or in connection with the Contract.
- Z12** **Notifying compensation events:**
- Z12.1** **Delete the last sentence in core clause 61.3 and replace with the following:** “If the *Contractor* does not notify a compensation event within four weeks of becoming aware of the event, he is not entitled to a change in the Prices, the Completion date or a Key Date and the *Employer* is absolved from all liability



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in relation to such event.”

Z13 Assessing compensation events:

Z13.1 The following is added at the end of core clause 63.4: “the *Contractor* shall only be entitled to changes to the Prices, the Completion Date and/or the Key Date if the compensation event affects the critical path.”

Z14 Termination

Z14.1 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”.

AMENDMENTS TO THE SECONDARY OPTION CLAUSES

Z16. Delay damages: add the following to secondary Option X7 (if applicable in this contract)

Z16.1 If the amount due for the *Contractor's* payment of delay damages reaches the limits stated in this Contract Data for Option X7, the *Employer* may, at its sole discretion, terminate the *Contractor's* obligation to Provide the Works.

Z16.2 If the *Employer* terminates in terms of this clause, the procedures and payment on termination as those applied for reasons R1 to R15 or R18 stated in the Termination Table

Z17 Performance Bond

Z17.1 Amend the first sentence of clause X13.1 to read as follows: The *Contractor* gives the *Employer* an unconditional, on-demand performance bond, provided by a bank or insurer which the *Project Manager* and the *Employer* have accepted, for the amount stated in the Contract Data and in the form set out in Annexure B of this Contract Data.

Z17.2 Add the following new clause as Option X13.2: The *Contractor* ensures that the performance bond is valid and enforceable until the end of the *contract period*. If the terms of the performance bond specify its expiry date and the end of the *contract period* does not coincide with such expiry date, four weeks prior to the said expiry date, the *Contractor* extends the validity of the performance bond until the end of the *contract period*. If the *Contractor* fails to so extend the validity of the performance bond, the *Employer* may claim the full amount of the performance bond and retain the proceeds as cash security

Z18 Limitation of liability: Insert the following new clause as Option X18.6:

Z18.1 The *Employer's* liability to the *Contractor* for the *Contractor's* indirect or consequential loss is limited to R0.00.

Z18.2 Notwithstanding any other clause in this contract, any proceeds received from the security bonds and guarantees provided by the *Contractor* in terms of this Contract and any insurances or any proceeds which would have been received from any insurances but for the conduct of the *Contractor* shall be excluded from the calculation of the limitations of liability listed in the contract.

ADDITIONAL Z CLAUSES



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Z19 Cession, delegation and assignment

Z19.1 The *Contractor* shall not cede, delegate or assign any of its rights or obligations to any person without the written consent of the *Employer*, which consent shall not be unreasonably withheld. This clause shall be binding on the liquidator/business rescue practitioner /trustee (whether provisional or not) of the *Contractor*.

Z19.2 The *Employer* may, on written notice to the *Contractor*, cede and delegate its rights and obligations under this contract to any person or entity.

Z20 Joint and several liability

Z20.1 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.

Z20.2 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.

Z20.3 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*.

Z21 Ethics

Z21.1 The *Contractor* undertakes:

Z21.1.1 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;

Z21.1.2 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.

Z21.2 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.

Z21.3 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.

Z22 Confidentiality

Z22.1 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.

Z22.2 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*.



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Z22.3 This undertaking shall not apply to –

Z22.3.1 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;

Z22.3.2 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;

Z22.3.3 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);

Z22.4 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*.

Z22.5 The *Contractor* ensures that all his Subcontractors abide by the undertakings in this clause.

Z23 Liens and Encumbrances

Z23.1 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

Z24 Intellectual Property

Z24.1 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.

Z24.2 IP rights remain vested in the originator and shall not be used for any reason whatsoever other than carrying out the *works*.

Z24.3 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.

Z24.4 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.

Z24.5 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:

Z24.5.1 the *Contractor's* design, manufacture, construction or execution of the Works;



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Z24.5.2 the use of the *Contractor's* Equipment, or

Z24.5.3 the proper use of the Works.

Z24.6 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.



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Annexure A: One-in-ten-year-return *weather data* obtained from SA Weather Bureau for [weather station]

If any one of these *weather measurements* recorded within a calendar month, before the Completion Date for the whole of the *works* and at the place stated in this Contract Data is shown to be more adverse than the amount stated below then the *Contractor* may notify a compensation event.

Month	<i>Weather measurement</i>				
	Cumulative rainfall (mm)	Number of days with rain more than 10mm	Number of days with min air temp < 0 deg. C	Number of days with snow lying at 08:00 CAT	[Other measurements if applicable]
January					
February					
March					
April					
May					
June					
July					
August					
September					
October					
November					
December					

Only the difference between the more adverse recorded weather and the equivalent measurement given above is taken into account in assessing a compensation event.



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Annexure B: Pro forma Security Bonds and Guarantee



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Annexure C: ACSA Panel of Adjudicators

One of the following adjudicators shall be selected by the referring party as and when a dispute arises.

Potential Adjudicator	Email Address	Chamber
Adv. Mkhululi Duncan Stubbs	duncan.stubbs@gmail.com	Thulamela Chambers
Adv. Arzhar Bham SC	bhamae@law.co.za	Victoria Mxenge
Adv. Mohhamed Chohan SC	chohann@counsel.co.za	Group One
Adv. Benny Makola	benny.makola@gmail.com	Group 621
Adv. Vincent Maleka SC	ivmaleka@mweb.co.za	Thulamela Chambers
Adv. Chris Loxton SC	loxton@counsel.co.za	Group One



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Annexure D: ACSA Insurance Clauses

SECTION A: DEFINITIONS

- (a) Reference to **Landside** means 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.
- (b) Reference to **Airside** means the Apron / maneuvering areas; and area within the airside boundary/perimeter fence, excluding the internal areas of the passenger terminals, perimeter gatehouses and cargo buildings.

SECTION B: INSURANCE CLAUSES

1. Insurance requirements for PROJECTS with a value below R50 million on the LANDSIDE

Projects with a value below R50 million are automatically covered under an ACSA umbrella insurance.

But please note that details of all projects with a value below R50 million, and with a **duration that exceeds 36 months** should be forwarded to ACSA Treasury as soon as the contractor is awarded (Email: nokulunga.masiza@airports.co.za) as these projects are not automatically covered under an ACSA umbrella insurance.

1.1 Contract Works

With regards to contract works claims, the contractor/consultant is responsible for a deductible (excess) of R250 000;

Contractors / consultants should 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 should re-insure the deductibles.



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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 Professional Indemnity cover of R5 million;

In the event of a claim above R5 million, the ACSA PI cover will kick in for the amount in excess of R5 million;

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 **PROJECTS** with a value **below R50 million on the AIRSIDE**

Projects with a value below R50 million are automatically covered under an ACSA umbrella insurance. But please note that details of all projects with a value below R50million, and with **duration that exceeds 36 months** should be forwarded to ACSA Treasury as soon as the contractor is awarded (Email: nokulunga.masiza@airports.co.za) as these projects are not automatically covered under an ACSA umbrella insurance

2.1 Contract Works

With regards to contract works claims, the contractor / consultant is responsible for a deductible (excess) of R250 000;

Contractors / consultants should 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 should re-insure the deductibles.

2.3 Professional Indemnity

All consultants are responsible for Professional Indemnity cover of R5 million;



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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 R5 million;

In the event of a claim above R5 million, the ACSA PI cover will kick in for the amount in excess of R5 million;

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 PROJECTS with a value above R50 million but below R1 billion on the LANDSIDE

Projects with a value of more R50 million are not automatically covered under the construction policies. A separate quote is provided by insurers per project. Details of all projects with a value above R50 million should be forwarded to ACSA Treasury as soon as the contractor is awarded (Email: nokulunga.masiza@airports.co.za).

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 should 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 should re-insure the deductibles.

3.3 Professional Indemnity

All consultants are responsible for Professional Indemnity cover of R10 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 R10 million;



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In the event of a claim above R10 million, the ACSA PI cover will kick in for the amount in excess of R10 million;

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 PROJECTS with a value above R50 million but below R1 billion on the AIRSIDE

Projects with a value of more R50 million are not automatically covered under the construction policies. A separate quote is provided by insurers per project. Details of all projects with a value above R50 million should be forwarded to ACSA Treasury as soon as the contractor is awarded (Email: nokulunga.masiza@airports.co.za).

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 should 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 should re-insure the deductibles.

4.3 Professional Indemnity

All consultants are responsible for Professional Indemnity cover of R10 million;



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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 R10 million;

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.

5. Insurance requirements for PROJECTS with a value above R1 billion, on either LANDSIDE or AIRSIDE

The deductibles stipulated above on paragraphs 1; 2; 3; and 4 do not apply to projects with a value above R1 billion

Applicable deductibles will be determined on a project by project basis when insurers are approached for cover

Details of projects above R1 billion should be forwarded to ACSA Treasury (Nokulunga.masiza@airports.co.za), **before the publication of the tender document.**

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C1.2 Contract Data

Part two - Data provided by the *Contractor*

Completion of the data in full, according to Options chosen, is essential to create a complete contract.

Clause	Statement	Data
10.1	The <i>Contractor</i> is (Name): Address Tel No. Fax No.	
11.2(8)	The <i>direct fee percentage</i> is The <i>subcontracted fee percentage</i> is	% %
11.2(18)	The <i>working areas</i> are the Site and	
24.1	The <i>Contractor's</i> key persons are: PROJECT MANAGER 1 Name: Job: Responsibilities: Qualifications: Experience: ELECTRICAL TECHNICIAN 2 Name: Job: Responsibilities: Qualifications: Experience:	

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	<p>ARTISAN: ELECTRICAL</p> <p>3 Name:</p> <p>Job</p> <p>Responsibilities:</p> <p>Qualifications:</p> <p>Experience:</p>	<p>CV's (and further key persons data including CVs) are appended to Tender Schedule entitled .</p>
11.2(3)	The <i>completion date</i> for the whole of the <i>works</i> is	
11.2(14)	The following matters will be included in the Risk Register	
11.2(19)	The Works Information for the <i>Contractor's</i> design is in:	
31.1	The programme identified in the Contract Data is	
A	Priced contract with activity schedule	
11.2(20)	The <i>activity schedule</i> is in	
11.2(30)	The tendered total of the Prices is	<p>(in figures)</p> <p>(in words), excluding VAT</p>
	Data for Schedules of Cost Components	
A	Priced contract with activity schedule	Data for the Shorter Schedule of Cost Components
B	Priced contract with bill of quantities	Data for the Shorter Schedule of Cost Components
41 in SSCC	The percentage for people overheads is:	%
21 in SSCC	The published list of Equipment is the last edition of the list published by	
	The percentage for adjustment for Equipment in the published list is	Minus %

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22 in SSCC	The rates of other Equipment are:	Equipment	Size or capacity	Rate
61 in SSCC	The hourly rates for Defined Cost of design outside the Working Areas are Note: Hourly rates are estimated 'cost to company of the employee' and not selling rates. Please insert another schedule if foreign resources may also be used	Category of employee	Hourly rate	
62 in SSCC	The percentage for design overheads is	%		
63 in SSCC	The categories of design employees whose travelling expenses to and from the Working Areas are included in Defined Cost are:			
	If Option C, D or E is used	Data for Schedule of Cost Components		
23 in SCC	The listed items of Equipment purchased for work on this contract, with an on cost charge, are:	Equipment	Time related charge	Per (time period)
24 in SCC	The rates of special Equipment are:	Equipment	Size or capacity	Rate

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44 in SCC	The percentage for Working Areas overheads is:	:	%
51 in SCC	The hourly rates for Defined Cost of manufacture or fabrication outside the Working Areas are Note: Hourly rates are estimated 'cost to company of the employee' and not selling rates Please insert another schedule if foreign resources may also be used	Category of employee	Hourly rate
52 in SCC	The percentage for manufacture and fabrication overheads is	%	
	If Option C, D, or E is used	Data for both schedules of cost components	
61 in SCC & SSSC	The hourly rates for Defined Cost of design outside the Working Areas are Note: Hourly rates are estimated 'cost to company of the employee' and not selling rates. Please insert another schedule if foreign resources may also be used	Category of employee	Hourly rate
62 in SCC & SSSC	The percentage for design overheads is	%	
63 in SCC & SSSC	The categories of design employees whose travelling expenses to and from the Working Areas are included as a cost of design of the <i>works</i> and Equipment done outside the Working Areas are:		
	If Option C, D or E is used	Data for the Shorter Schedule of Cost Components	
41 in SSSC	The percentage for people overheads is:	%	
21 in SSSC	The published list of Equipment is the last edition of the list published by The percentage for adjustment for Equipment in the published list is	%	



AIRPORTS COMPANY SOUTH AFRICA SOC LIMITED

CONTRACT NUMBER _____

MAINTENANCE AND REPAIRS TO MEDIUM VOLTAGE ELECTRICAL INFRASTRUCTURE: SWITCHGEARS, POWER FACTOR CORRECTION SYSTEM, TRANSFORMERS, RING MAIN UNITS, MINI-SUBSTATIONS, CABLES AT O.R TAMBO INTERNATIONAL AIRPORT FOR A PERIOD OF THREE (3) YEARS.

22 in SSCC	The rates of other Equipment are:	Equipment	Size or capacity	Rate

MAINTENANCE AND REPAIRS TO MEDIUM VOLTAGE ELECTRICAL INFRASTRUCTURE: SWITCHGEARS, POWER FACTOR CORRECTION SYSTEM, TRANSFORMERS, RING MAIN UNITS, MINI-SUBSTATIONS, CABLES AT O.R TAMBO INTERNATIONAL AIRPORT FOR A PERIOD OF THREE (3) YEARS.

PART 2: PRICING DATA

Document reference	Title	No of pages
C2.1	Pricing assumptions: Option A	
C2.2	The <i>activity schedule</i>	

MAINTENANCE AND REPAIRS TO MEDIUM VOLTAGE ELECTRICAL INFRASTRUCTURE: SWITCHGEARS, POWER FACTOR CORRECTION SYSTEM, TRANSFORMERS, RING MAIN UNITS, MINI-SUBSTATIONS, CABLES AT O.R TAMBO INTERNATIONAL AIRPORT FOR A PERIOD OF THREE (3) YEARS.

C2.1 Pricing assumptions: Option A

1. The conditions of contract

1.1. How work is priced and assessed for payment

Clause 11 in NEC3 Engineering and Construction Contract, April 2013 (ECC3) Option A states:

Identified and defined terms	11 11.2	(20) The Activity Schedule is the <i>activity schedule</i> unless later changed in accordance with this contract.
		(22) Defined Cost is the cost of the components in the Shorter Schedule of Cost Components whether work is subcontracted or not excluding the cost of preparing quotations for compensation events.
		(27) The Price for Work Done to Date is the total of the Prices for <ul style="list-style-type: none"> • each group of completed activities and • each completed activity which is not in a group. A completed activity is one which is without Defects which would either delay or be covered by immediately following work.
		(30) The Prices are the lump sum prices for each of the activities on the Activity Schedule unless later changed in accordance with this contract.

Option A is a lump sum form of contract where the work is broken down into activities, each of which is priced by the tendering contractor as a lump sum. Only completed activities are assessed for payment at each assessment date; no part payment is made if the activity is not completed by the assessment date.

1.2. Function of the Activity Schedule

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

1.3. Link to the programme

Clause 31.4 states that "The Contractor provides information which shows how each activity on the Activity Schedule relates to the operations on each programme which he submits for acceptance". Hence when compiling the *activity schedule*, the tendering contractor needs to show each activity on the programme he submits with his tender.

1.4. Preparing the activity schedule

The tendering contractor prepares the *activity schedule* and should study the ECC3 Guidance Notes pages 19 and 20 before doing so. The Employer may have instructed the tendering contractor to include

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particular activities which he has specified and requires the *Contractor* to identify them in his *activity schedule*.

1 Generally it is the Contractor who prepares the Activity Schedule as part of his tender by breaking down the work described within the Works Information into suitable activities which can be well defined, priced as a lump sum and shown on the programme. The Employer, in his Conditions of Tender or in a Tender Schedule, may have listed some items that he requires the Contractor to include in his activity schedule and be priced accordingly.

2 The Prices are defined in clause 11.2(20) as the lump sum for each activity in the activity schedule and the Price for Work Done to Date (PWDD) (the amount due to the contractor) is defined in clause 11.2(24) as the total of the Prices for each activity that has been completed. Hence activities in the activity schedule should be structured so as to provide an acceptable monthly cash flow as they are only assessed for payment on the assessment date if they have been completed.

3 As the Contractor has an obligation to correct Defects (core clause 43.1) and there is no compensation event for this unless the Defect was due to an Employer's risk, the lump sum Prices must also include for the correction of Defects.

4 If the Contractor has decided not to identify a particular activity, the cost to the *Contractor* of doing the work must be included in, or spread across, the other Prices in order to fulfil the obligation to complete the works for the tendered total of the Prices.

5 There is no adjustment to the lump sum activity schedule price if the amount, or quantity, of work within that activity later turns out to be different to that which the contractor estimated at time of tender. The only basis for a change to the Prices is as a result of a compensation event. See Clause 60.1.

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

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

•

An activity schedule could have the following format:

Item No.	Programme Reference	Activity description	Price

MAINTENANCE AND REPAIRS TO MEDIUM VOLTAGE ELECTRICAL INFRASTRUCTURE: SWITCHGEARS, POWER FACTOR CORRECTION SYSTEM, TRANSFORMERS, RING MAIN UNITS, MINI-SUBSTATIONS, CABLES AT O.R TAMBO INTERNATIONAL AIRPORT FOR A PERIOD OF THREE (3) YEARS.

C2.2 the *activity schedule*

1. ACTIVITY SCHEDULE

C 2.2.1 Schedule for Bill of Quantities and Rates

A. BOQ No. 1 Preliminary and General (Fixed)

Item	Description	Unit	Qty.	Each (Rand)	Total (Rand)
1.	BOQ No. 1 - Preliminary and General (Fixed)				
1.1	Third Party Liability Insurance – (Monthly premium)	Each			
1.2	Employee: Airfield, Cargo & Terminal Permits, Induction	Each			
1.3	Permanent Vehicle Permits	Each			
1.4	OHS Act – Personal Protective Equipment	Each			
1.5	OHS Act – Safety File	Each	2		
1.6	OHS Act – Medical reports	Each			
1.7	Mandatory training for Semi-skilled and general workers - Hazard Identification & Risk Assessment (HIRA)	Each			
1.8	Mandatory training for key resources - Operating Regulation for High Voltage Systems (ORHVS)	Each			
Total for BOQ No. 1: Table A - Carried to Summary					

MAINTENANCE AND REPAIRS TO MEDIUM VOLTAGE ELECTRICAL INFRASTRUCTURE: SWITCHGEARS, POWER FACTOR CORRECTION SYSTEM, TRANSFORMERS, RING MAIN UNITS, MINI-SUBSTATIONS, CABLES AT O.R TAMBO INTERNATIONAL AIRPORT FOR A PERIOD OF THREE (3) YEARS.

C 2.2.2 Preventative Maintenance - Activity Schedule B-1.

B. BOQ No. 2 Terminal Building - MV Substation

Item	Description	Unit	Qty.	Each (Rand)	Total (Rand)
2.	BOQ No. 2 - Terminal Building - MV Substation				
2.1	Substation 1: Annual Maintenance				
2.1.1	VCB's - Alstom SBV4/2000/31.5-S1	each	5		
2.1.2	Current Transformers	Set	1		
2.1.3	Overcurrent Relays	each	1		
2.1.4	Differential Protection/ Solkor Relays	each	1		
2.1.5	Transformer Protection	each	1		
2.2	Substation 2: Annual Maintenance				
2.2.1	VCB's - Alstom SBV4/2000/31.5-S1	each	10		
2.2.2	Current Transformers	Set	1		
2.2.3	Overcurrent Relays	each	1		
2.2.4	Differential Protection/ Solkor Relays	each	1		
2.2.5	Transformer Protection	each	1		
2.3	Substation 3: Annual Maintenance				
2.3.1	VCB's - Alstom SBV4/2000/31.5-S1	each	5		
2.3.2	Current Transformers	Set	1		
2.3.3	Overcurrent Relays	each	1		
2.3.4	Differential Protection/ Solkor Relays	each	1		
2.3.5	Transformer Protection	each	1		
2.4	Substation 4 (Chiller Plant): Annual Maintenance				
2.4.1	VCB's - Alstom SBV4/2000/31.5-S1	each	5		
2.4.2	Current Transformers	Set	1		
2.4.3	Overcurrent Relays	each	1		
2.4.4	Differential Protection/ Solkor Relays	each	1		
2.4.5	Transformer Protection	each	1		
2.5	Substation 5: Annual Maintenance				
2.5.1	VCB's - Alstom SBV4/2000/31.5-S1	each	7		
2.5.2	Current Transformers	Set	1		
2.5.3	Overcurrent Relays	each	1		
2.5.4	Differential Protection/ Solkor Relays	each	1		
2.5.5	Transformer Protection	each	1		
Sub Total for BOQ No. 2: Table B-1 - Carried to end of Table B					

MAINTENANCE AND REPAIRS TO MEDIUM VOLTAGE ELECTRICAL INFRASTRUCTURE: SWITCHGEARS, POWER FACTOR CORRECTION SYSTEM, TRANSFORMERS, RING MAIN UNITS, MINI-SUBSTATIONS, CABLES AT O.R TAMBO INTERNATIONAL AIRPORT FOR A PERIOD OF THREE (3) YEARS.

B-2. BOQ No. 2 Terminal Building - MV Substation

Item	Description	Unit	Qty.	Each (Rand)	Total (Rand)
2.	BOQ No. 2 - Terminal Building - MV Substation				
2.6	Substation 6: Annual Maintenance				
2.6.1	VCB's - Alstom SBV4/2000/31.5-S1	each	7		
2.6.2	Current Transformers	Set	1		
2.6.3	Overcurrent Relays	each	1		
2.6.4	Differential Protection/ Solkor Relays	each	1		
2.6.5	Transformer Protection	each	1		
2.7	Substation 7: Annual Maintenance				
2.7.1	VCB's - Alstom SBV4/2000/31.5-S1	each	4		
2.7.2	Current Transformers	Set	1		
2.7.3	Overcurrent Relays	each	1		
2.7.4	Differential Protection/ Solkor Relays	each	1		
2.7.5	Transformer Protection	each	1		
2.8	Substation 8: Annual Maintenance				
2.8.1	VCB's - Alstom SBV4/2000/31.5-S1	each	4		
2.8.2	Current Transformers	Set	1		
2.8.3	Overcurrent Relays	each	1		
2.8.4	Differential Protection/ Solkor Relays	each	1		
2.8.5	Transformer Protection	each	1		
2.9	Substation 9: Annual Maintenance				
2.9.1	VCB's - Alstom SBV4/2000/31.5-S1	each	15		
2.9.2	Current Transformers	Set	1		
2.9.3	Overcurrent Relays	each	1		
2.9.4	Differential Protection/ Solkor Relays	each	1		
2.9.5	Transformer Protection	each	1		
2.10	Substation 10: Annual Maintenance				
2.10.1	VCB's - Alstom SBV4/2000/31.5-S1	each	5		
2.11.2	Current Transformers	Set	1		
2.12.3	Overcurrent Relays	each	1		
2.13.4	Differential Protection/ Solkor Relays	each	1		
2.14.5	Transformer Protection	each	1		
Sub Total for BOQ No. 2: Table B-2 - Carried to end of Table B					

MAINTENANCE AND REPAIRS TO MEDIUM VOLTAGE ELECTRICAL INFRASTRUCTURE: SWITCHGEARS, POWER FACTOR CORRECTION SYSTEM, TRANSFORMERS, RING MAIN UNITS, MINI-SUBSTATIONS, CABLES AT O.R TAMBO INTERNATIONAL AIRPORT FOR A PERIOD OF THREE (3) YEARS.

B-3. BOQ No. 2 Terminal Building - MV Substation

Item	Description	Unit	Qty.	Each (Rand)	Total (Rand)
2.	BOQ No. 2 - Terminal Building - MV Substation				
2.11	Substation 11: Annual Maintenance				
2.11.1	VCB's - Alstom SBV4/2000/31.5-S1	each	6		
2.11.2	Current Transformers	Set	1		
2.11.3	Overcurrent Relays	each	1		
2.11.4	Differential Protection/ Solkor Relays	each	1		
2.11.5	Transformer Protection	each	1		
2.12	Substation 12: Annual Maintenance				
2.12.1	VCB's - Alstom SBV4/2000/31.5-S1	each	4		
2.12.2	Current Transformers	Set	1		
2.12.3	Overcurrent Relays	each	1		
2.12.4	Differential Protection/ Solkor Relays	each	1		
2.12.5	Transformer Protection	each	1		
2.13	Substation 13: Annual Maintenance				
2.13.1	VCB's - Alstom SBV4/2000/31.5-S1	each	5		
2.13.2	Current Transformers	Set	1		
2.13.3	Overcurrent Relays	each	1		
2.13.4	Differential Protection/ Solkor Relays	each	1		
2.13.5	Transformer Protection	each	1		
2.14	Substation 14: Annual Maintenance				
2.14.1	VCB's - Alstom SBV4/2000/31.5-S1	each	3		
2.14.2	Current Transformers	Set	1		
2.14.3	Overcurrent Relays	each	1		
2.14.4	Differential Protection/ Solkor Relays	each	1		
2.14.5	Transformer Protection	each	1		
2.15	Substation 15: Annual Maintenance				
2.15.1	VCB's – Tamco VHIH	each	4		
2.15.2	Current Transformers	Set	1		
2.15.3	Overcurrent Relays	each	1		
2.15.4	Differential Protection/ Solkor Relays	each	1		
2.15.5	Transformer Protection	each	1		
Sub Total for BOQ No. 2: Table B-3 - Carried to end of Table B					

MAINTENANCE AND REPAIRS TO MEDIUM VOLTAGE ELECTRICAL INFRASTRUCTURE: SWITCHGEARS, POWER FACTOR CORRECTION SYSTEM, TRANSFORMERS, RING MAIN UNITS, MINI-SUBSTATIONS, CABLES AT O.R TAMBO INTERNATIONAL AIRPORT FOR A PERIOD OF THREE (3) YEARS.

B-4. BOQ No. 2 Terminal Building - MV Substation

Item	Description	Unit	Qty.	Each (Rand)	Total (Rand)
2.	BOQ No. 2 - Terminal Building - MV Substation				
2.16	Switching Station South: Annual Maintenance				
2.16.1	VCB's - Alstom SBV4/2000/31.5-S1	each	9		
2.16.2	Current Transformers	Set	1		
2.16.3	Overcurrent Relays	each	1		
2.16.4	Differential Protection/ Solkor Relays	each	1		
2.17	Middle Room: Annual Maintenance				
2.17.1	VCB's - Alstom SBV4/2000/31.5-S1	each	3		
2.17.2	Current Transformers	Set	1		
2.17.3	Overcurrent Relays	each	1		
2.17.4	Differential Protection/ Solkor Relays	each	1		
2.18	Switching Station North: Annual Maintenance				
2.18.1	VCB's - Alstom SBV4/2000/31.5-S1	each	9		
2.18.2	Current Transformers	Set	1		
2.18.3	Overcurrent Relays	each	1		
2.18.4	Differential Protection/ Solkor Relays	each	1		
Sub Total for BOQ No. 2: Table B-4 - Carried to end of Table B					
Total for BOQ No. 2: Table (B-1 + B-2 + B-3 + B-4) - Carried to Summary					

MAINTENANCE AND REPAIRS TO MEDIUM VOLTAGE ELECTRICAL INFRASTRUCTURE: SWITCHGEARS, POWER FACTOR CORRECTION SYSTEM, TRANSFORMERS, RING MAIN UNITS, MINI-SUBSTATIONS, CABLES AT O.R TAMBO INTERNATIONAL AIRPORT FOR A PERIOD OF THREE (3) YEARS.

C. C-1. BOQ No. 3 Freight/ Cargo Substations - MV Substation

Item	Description	Unit	Qty.	Each (Rand)	Total (Rand)
3.	BOQ No. 3 - Freight/ Cargo Substations - MV Substation				
3.1	Substation 1: Annual Maintenance				
3.1.1	VCB's - Alstom SBV4/2000/31.5-S1	each	1		
3.1.2	Current Transformers	Set	1		
3.1.3	Overcurrent Relays	each	1		
3.1.4	Differential Protection/ Solkor Relays	each	1		
3.1.5	Transformer Protection	each	1		
3.2	Substation 2: Annual Maintenance				
3.2.1	VCB's - Alstom SBV4/2000/31.5-S1	each	6		
3.2.2	Current Transformers	Set	1		
3.2.3	Overcurrent Relays	each	1		
3.2.4	Differential Protection/ Solkor Relays	each	1		
3.2.5	Transformer Protection	each	1		
3.3	Substation 3: Annual Maintenance				
3.3.1	VCB's - Alstom SBV4/2000/31.5-S1	each	7		
3.3.2	Current Transformers	Set	1		
3.3.3	Overcurrent Relays	each	1		
3.3.4	Differential Protection/ Solkor Relays	each	1		
3.3.5	Transformer Protection	each	1		
3.4	Substation 4: Annual Maintenance				
3.4.1	VCB's - Alstom SBV4/2000/31.5-S1	each	6		
3.4.2	Current Transformers	Set	1		
3.4.3	Overcurrent Relays	each	1		
3.4.4	Differential Protection/ Solkor Relays	each	1		
3.4.5	Transformer Protection	each	1		
3.5	Substation 5: Annual Maintenance				
3.5.1	VCB's – Tamco VHIH	each	7		
3.5.2	Current Transformers	Set	1		
3.5.3	Overcurrent Relays	each	1		
3.5.4	Differential Protection/ Solkor Relays	each	1		
3.5.5	Transformer Protection	each	1		
Sub Total for BOQ No. 3: Table C-1 - Carried to end of Table C					

MAINTENANCE AND REPAIRS TO MEDIUM VOLTAGE ELECTRICAL INFRASTRUCTURE: SWITCHGEARS, POWER FACTOR CORRECTION SYSTEM, TRANSFORMERS, RING MAIN UNITS, MINI-SUBSTATIONS, CABLES AT O.R TAMBO INTERNATIONAL AIRPORT FOR A PERIOD OF THREE (3) YEARS.

C-2. BOQ No. 3 Freight/ Cargo Substations - MV Substation

Item	Description	Unit	Qty.	Each (Rand)	Total (Rand)
3.	BOQ No. 3 - Freight/ Cargo Substations - MV Substation				
3.6	Substation 6: Annual Maintenance				
3.6.1	VCB's - Alstom SBV4/2000/31.5-S1	each	4		
3.6.2	Current Transformers	Set	1		
3.6.3	Overcurrent Relays	each	1		
3.6.4	Differential Protection/ Solkor Relays	each	1		
3.6.5	Transformer Protection	each	1		
3.7	Substation 7: Annual Maintenance				
3.7.1	VCB's - Alstom SBV4/2000/31.5-S1	each	7		
3.7.2	Current Transformers	Set	1		
3.7.3	Overcurrent Relays	each	1		
3.7.4	Differential Protection/ Solkor Relays	each	1		
3.7.5	Transformer Protection	each	1		
3.8	Reservoir Substation: Annual Maintenance				
3.8.1	VCB's - Alstom SBV4/2000/31.5-S1	each	2		
3.8.2	Current Transformers	Set	1		
3.8.3	Overcurrent Relays	each	1		
3.8.4	Differential Protection/ Solkor Relays	each	1		
3.8.5	Transformer Protection	each	1		
3.9	Switching Station: Annual Maintenance				
3.9.1	VCB's - Alstom SBV4/2000/31.5-S1	each	5		
3.9.2	Current Transformers	Set	1		
3.9.3	Overcurrent Relays	each	1		
3.9.4	Differential Protection/ Solkor Relays	each	1		
3.9.5	Transformer Protection	each	1		
Total for BOQ No. 3: Table C-2 - Carried to end of Table C					
Total for BOQ No. 3: Table (C-1 + C-2) - Carried to Summary					

MAINTENANCE AND REPAIRS TO MEDIUM VOLTAGE ELECTRICAL INFRASTRUCTURE: SWITCHGEARS, POWER FACTOR CORRECTION SYSTEM, TRANSFORMERS, RING MAIN UNITS, MINI-SUBSTATIONS, CABLES AT O.R TAMBO INTERNATIONAL AIRPORT FOR A PERIOD OF THREE (3) YEARS.

D. D-1. BOQ No. 4 Airfield Substations - MV Substation

Item	Description	Unit	Qty.	Each (Rand)	Total (Rand)
4.	BOQ No. 4 Airfield Substations - MV Substation				
4.1	New OPS Substation: Annual Maintenance				
4.1.1	VCB's – Tamco VHIH	each	11		
4.1.2	Current Transformers	Set	1		
4.1.3	Overcurrent Relays	each	1		
4.1.4	Differential Protection/ Solkor Relays	each	1		
4.1.5	Transformer Protection	each	1		
4.2	21 Left Substation: Annual Maintenance				
4.2.1	VCB's – Tamco VHIH	each	5		
4.2.2	Current Transformers	Set	1		
4.2.3	Overcurrent Relays	each	1		
4.2.4	Differential Protection/ Solkor Relays	each	1		
4.2.5	Transformer Protection	each	1		
4.3	03 Right Substation: Annual Maintenance				
4.3.1	VCB's – Tamco VHIH	each	5		
4.3.2	Current Transformers	Set	1		
4.3.3	Overcurrent Relays	each	1		
4.3.4	Differential Protection/ Solkor Relays	each	1		
4.3.5	Transformer Protection	each	1		
4.4	L Band Substation (Fuel Farm): Annual Maintenance				
4.4.1	VCB's – Tamco VHIH	each	6		
4.4.2	Current Transformers	Set	1		
4.4.3	Overcurrent Relays	each	1		
4.4.4	Differential Protection/ Solkor Relays	each	1		
4.4.5	Transformer Protection	each	1		
4.5	15/33 Substation: Annual Maintenance				
4.5.1	VCB's – Tamco VHIH	each	5		
4.5.2	Current Transformers	Set	1		
4.5.3	Overcurrent Relays	each	1		
4.5.4	Differential Protection/ Solkor Relays	each	1		
4.5.5	Transformer Protection	each	1		
Sub Total for BOQ No. 2: Table D-1 - Carried to end of Table D					

MAINTENANCE AND REPAIRS TO MEDIUM VOLTAGE ELECTRICAL INFRASTRUCTURE: SWITCHGEARS, POWER FACTOR CORRECTION SYSTEM, TRANSFORMERS, RING MAIN UNITS, MINI-SUBSTATIONS, CABLES AT O.R TAMBO INTERNATIONAL AIRPORT FOR A PERIOD OF THREE (3) YEARS.

D-2. BOQ No. 4 Airfield Substations - MV Substation

Item	Description	Unit	Qty.	Each (Rand)	Total (Rand)
4.	BOQ No. 4 Airfield Substations - MV Substation				
4.6	21 Right Substation: Annual Maintenance				
4.6.1	VCB's – Tamco VHIH	each	5		
4.6.2	Current Transformers	each	1		
4.6.3	Overcurrent Relays	each	1		
4.6.4	Differential Protection/ Solkor Relays	each	1		
4.6.5	Transformer Protection	each	1		
4.7	New L Band Substation: Annual Maintenance				
4.7.1	VCB's – Tamco VHIH	each	6		
4.7.2	Current Transformers	Set	1		
4.7.3	Overcurrent Relays	each	1		
4.7.4	Differential Protection/ Solkor Relays	each	1		
4.7.5	Transformer Protection	each	1		
4.8	Airfield Switching Station: Annual Maintenance				
4.8.1	VCB's - Alstom SBV4/2000/31.5-S1	each	7		
4.8.2	Current Transformers	Set	1		
4.8.3	Overcurrent Relays	each	1		
4.8.4	Differential Protection/ Solkor Relays	each	1		
4.8.5	Transformer Protection	each	1		
4.9	03 Left Substation: Annual Maintenance				
4.9.1	VCB's – Tamco VHIH	each	5		
4.9.2	Current Transformers	Set	1		
4.9.3	Overcurrent Relays	each	1		
4.9.4	Differential Protection/ Solkor Relays	each	1		
4.9.5	Transformer Protection	each	1		
4.10	ATNS Substation: Annual Maintenance				
4.10.1	VCB's - Alstom SBV4/2000/31.5-S1	each	6		
4.10.2	Current Transformers	Set	1		
4.10.3	Overcurrent Relays	each	1		
4.10.4	Differential Protection/ Solkor Relays	each	1		
4.10.5	Transformer Protection	each	1		
Sub Total for BOQ No. 4: Table D-2 - Carried to end of Table D					
Total for BOQ No. 4: Table (D-1 + D-2) - Carried to Summary					

MAINTENANCE AND REPAIRS TO MEDIUM VOLTAGE ELECTRICAL INFRASTRUCTURE: SWITCHGEARS, POWER FACTOR CORRECTION SYSTEM, TRANSFORMERS, RING MAIN UNITS, MINI-SUBSTATIONS, CABLES AT O.R TAMBO INTERNATIONAL AIRPORT FOR A PERIOD OF THREE (3) YEARS.

E. E-1. BOQ No. 5 Terminal Substations - Transformers

Item	Description	Unit	Qty.	Each (Rand)	Total (Rand)
5.	BOQ No. 5 Terminal Substations - Transformers				
5.1	Substation 1 & Chiller Plant: Alstom 2000 kVA				
5.1.1	Annual inspections, Maintenance & Oil samples	Each	0		
5.2	Substation 1 & Chiller Plant: Hawker Siddeley 2000 kVA				
5.2.1	Annual inspections, Maintenance & Oil samples	Each	3		
5.3	Substation 1 & Chiller Plant: Hawker Siddeley 1600 kVA				
5.3.1	Annual inspections, Maintenance & Oil samples	Each	3		
5.4	Substation 2: Actom 2000 kVA				
5.4.1	Annual inspections, Maintenance & Oil samples	Each	6		
5.5	Substation 3: Hawker Siddeley 1600 kVA				
5.5.1	Annual inspections, Maintenance & Oil samples	Each	1		
5.6	Substation 4: Hawker Siddeley 2000 kVA				
5.6.1	Annual inspections, Maintenance & Oil samples	Each	3		
5.7	Substation 5: Hawker Siddeley 1600 kVA				
5.7.1	Annual inspections, Maintenance & Oil samples	Each	3		
5.8	Substation 6: Alstom 1600 kVA				
5.8.1	Annual inspections, Maintenance & Oil samples	Each	1		
5.9	Substation 6: Alstom 2000 kVA				
5.9.1	Annual inspections, Maintenance & Oil samples	Each	2		
5.10	Substation 7: Alstom 1600 kVA				
5.10.1	Annual inspections, Maintenance & Oil samples	Each	2		
5.11	Substation 8: Alstom 1250 kVA				
5.11.1	Annual inspections, Maintenance & Oil samples	Each	2		
5.12	Substation 9: Alstom 2000 kVA				
5.12.1	Annual inspections, Maintenance & Oil samples	Each	5		
5.13	Substation 10: Alstom 2000 kVA				
5.13.1	Annual inspections, Maintenance & Oil samples	Each	2		
5.14	Substation 11: Alstom 2000 kVA				
5.14.1	Annual inspections, Maintenance & Oil samples	Each	2		

MAINTENANCE AND REPAIRS TO MEDIUM VOLTAGE ELECTRICAL INFRASTRUCTURE: SWITCHGEARS, POWER FACTOR CORRECTION SYSTEM, TRANSFORMERS, RING MAIN UNITS, MINI-SUBSTATIONS, CABLES AT O.R TAMBO INTERNATIONAL AIRPORT FOR A PERIOD OF THREE (3) YEARS.

Sub Total for BOQ No. 5: Table E-1 - Carried to end of Table E		
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MAINTENANCE AND REPAIRS TO MEDIUM VOLTAGE ELECTRICAL INFRASTRUCTURE: SWITCHGEARS, POWER FACTOR CORRECTION SYSTEM, TRANSFORMERS, RING MAIN UNITS, MINI-SUBSTATIONS, CABLES AT O.R TAMBO INTERNATIONAL AIRPORT FOR A PERIOD OF THREE (3) YEARS.

E-2. BOQ No. 5 Terminal Substations - Transformers

Item	Description	Unit	Qty.	Each (Rand)	Total (Rand)
5.15	Substation 12: Alstom 2000 kVA				
5.15.1	Annual inspections, Maintenance & Oil samples	Each	2		
5.16	BOQ No. 5 Terminal Substations - Transformers				
5.17	Substation 13: Alstom 2000 kVA				
5.17.1	Annual inspections, Maintenance & Oil samples	Each	1		
5.18	Substation 14: Hawker Siddeley 2000 kVA				
5.18.1	Annual inspections, Maintenance & Oil samples	Each	1		
5.19	Substation 15: Hawker Siddeley 1600 kVA				
5.19.1	Annual inspections, Maintenance & Oil samples	Each	2		
Sub Total for BOQ No. 5: Table E-2 - Carried to end of table E					
Total for BOQ No. 5: Table (E-1 + E-2) - Carried to Summary					

MAINTENANCE AND REPAIRS TO MEDIUM VOLTAGE ELECTRICAL INFRASTRUCTURE: SWITCHGEARS, POWER FACTOR CORRECTION SYSTEM, TRANSFORMERS, RING MAIN UNITS, MINI-SUBSTATIONS, CABLES AT O.R TAMBO INTERNATIONAL AIRPORT FOR A PERIOD OF THREE (3) YEARS.

F. BOQ No. 6 Terminal Building - Freight/ Cargo Substations

Item	Description	Unit	Qty.	Each (Rand)	Total (Rand)
6.	BOQ No. 6 Transformers - Freight/ Cargo Substations				
6.1	Substation 1: Hawker Siddeley 1000 kVA				
6.1.1	Annual inspections, Maintenance & Oil samples	Each	2		
6.2	Substation 2: Hawker Siddeley 1000 kVA				
6.2.1	Annual inspections, Maintenance & Oil samples	Each	2		
6.3	Substation 3: Hawker Siddeley 1000 kVA				
6.3.1	Annual inspections, Maintenance & Oil samples	Each	2		
6.4	Substation 4: Hawker Siddeley 2000 kVA				
6.4.1	Annual inspections, Maintenance & Oil samples	Each	1		
6.5	Substation 5: Hawker Siddeley 1000 kVA				
6.5.1	Annual inspections, Maintenance & Oil samples	Each	2		
6.6	Substation 6: Hawker Siddeley 2000 kVA				
6.6.1	Annual inspections, Maintenance & Oil samples	Each	1		
6.7	Substation 7: Reliable Transformer 10 kVA				
6.7.1	Annual inspections, Maintenance & Oil samples	Each	1		
6.8	Reservoir Substation: Alstom 500 kVA				
6.8.1	Annual inspections, Maintenance & Oil samples	Each	1		
Total for BOQ No. 6: Table F - Carried to Summary					

MAINTENANCE AND REPAIRS TO MEDIUM VOLTAGE ELECTRICAL INFRASTRUCTURE: SWITCHGEARS, POWER FACTOR CORRECTION SYSTEM, TRANSFORMERS, RING MAIN UNITS, MINI-SUBSTATIONS, CABLES AT O.R TAMBO INTERNATIONAL AIRPORT FOR A PERIOD OF THREE (3) YEARS.

G. BOQ No. 7 Transformers - Airfield Substations

Item	Description	Unit	Qty.	Each (Rand)	Total (Rand)
7.	BOQ No. 7 Transformers – Airfield Substations				
7.1	New OPS Substation: Siemens 100 kVA				
7.1.1	Annual inspections, Maintenance & Oil samples	Each	2		
7.2	21 Left Substation: Hawker Siddeley 500 kVA				
7.2.1	Annual inspections, Maintenance & Oil samples	Each	2		
7.3	03 Right Substation: Hawker Siddeley 500 kVA				
7.3.1	Annual inspections, Maintenance & Oil samples	Each	2		
7.4	Fuel Farm L Band Substation: Hawker Siddeley 100 kVA				
7.4.1	Annual inspections, Maintenance & Oil samples	Each	2		
7.5	15/33 Substation: Hawker Siddeley 500 kVA				
7.5.1	Annual inspections, Maintenance & Oil samples	Each	2		
7.6	21 Right Substation: Hawker Siddeley 315 kVA				
7.6.1	Annual inspections, Maintenance & Oil samples	Each	2		
7.7	New L Band Substation: Hawker Siddeley 200 kVA				
7.7.1	Annual inspections, Maintenance & Oil samples	Each	2		
7.8	03 Left Substation: Hawker Siddeley 500 kVA				
7.8.1	Annual inspections, Maintenance & Oil samples	Each	2		
7.9	ATNS Substation: Alstom 1000 kVA				
7.9.1	Annual inspections, Maintenance & Oil samples	Each	2		
Total for BOQ No. 7: Table G - Carried to Summary					

MAINTENANCE AND REPAIRS TO MEDIUM VOLTAGE ELECTRICAL INFRASTRUCTURE: SWITCHGEARS, POWER FACTOR CORRECTION SYSTEM, TRANSFORMERS, RING MAIN UNITS, MINI-SUBSTATIONS, CABLES AT O.R TAMBO INTERNATIONAL AIRPORT FOR A PERIOD OF THREE (3) YEARS.

H. BOQ No.8 Substation 6 Ring Mini Substations

Item	Description	Unit	Qty.	Each (Rand)	Total (Rand)
8.	BOQ No. 8 Substation 6 Ring Mini Substations				
8.1	MR1 Mini Substation: ABB Power Tech 800 kVA				
8.1.1	Transformer & Switchgear: Annual inspections, Maintenance & Oil samples	Each	1		
8.2	MR2 Mini Substation: ABB Power Tech 800 kVA				
8.2.1	Transformer & Switchgear: Annual inspections, Maintenance & Oil samples	Each	1		
8.3	MR3 Mini Substation: ABB Power Tech 800 kVA				
8.3.1	Transformer & Switchgear: Annual inspections, Maintenance & Oil samples	Each	1		
8.4	MR4 Mini Substation: ABB Power Tech 800 kVA				
8.4.1	Transformer & Switchgear: Annual inspections, Maintenance & Oil samples	Each	1		
8.5	MR5 Mini Substation: ABB Power Tech 800 kVA				
8.5.1	Transformer & Switchgear: Annual inspections, Maintenance & Oil samples	Each	1		
8.6	MR6 Mini Substation: ABB Power Tech 800 kVA				
8.6.1	Transformer & Switchgear: Annual inspections, Maintenance & Oil samples	Each	1		
8.7	MR7 Mini Substation: ABB Power Tech 800 kVA				
8.7.1	Transformer & Switchgear: Annual inspections, Maintenance & Oil samples	Each	1		
Total for BOQ No. 8: Table H - Carried to Summary					

MAINTENANCE AND REPAIRS TO MEDIUM VOLTAGE ELECTRICAL INFRASTRUCTURE: SWITCHGEARS, POWER FACTOR CORRECTION SYSTEM, TRANSFORMERS, RING MAIN UNITS, MINI-SUBSTATIONS, CABLES AT O.R TAMBO INTERNATIONAL AIRPORT FOR A PERIOD OF THREE (3) YEARS.

I. BOQ No.9 Substation Ring - Alpha Mini Substations

Item	Description	Unit	Qty.	Each (Rand)	Total (Rand)
9.	BOQ No. 9 Substation 9 Ring - Alpha Mini Substations				
9.1	A4 Mini Substation: Alstom 500 kVA				
9.1.1	Transformer & Switchgear: Annual inspections, Maintenance & Oil samples	Each	1		
9.2	A5 Mini Substation: Alstom 500 kVA				
9.2.1	Transformer & Switchgear: Annual inspections, Maintenance & Oil samples	Each	1		
9.3	A6 Mini Substation: Alstom 500 kVA				
9.3.1	Transformer & Switchgear: Annual inspections, Maintenance & Oil samples	Each	1		
9.4	A7 Mini Substation: Transformco 500 kVA				
9.4.1	Transformer & Switchgear: Annual inspections, Maintenance & Oil samples	Each	1		
9.5	A8 Mini Substation: Alstom 500 kVA				
9.5.1	Transformer & Switchgear: Annual inspections, Maintenance & Oil samples	Each	1		
9.6	A9 Mini Substation: Alstom 500 kVA				
9.6.1	Transformer & Switchgear: Annual inspections, Maintenance & Oil samples	Each	1		
9.7	A10 Mini Substation: Alstom 500 kVA				
9.7.1	Transformer & Switchgear: Annual inspections, Maintenance & Oil samples	Each	1		
9.8	A11 Mini Substation: Alstom 500 kVA				
9.8.1	Transformer & Switchgear: Annual inspections, Maintenance & Oil samples	Each	1		
9.9	A12 Mini Substation: Alstom 500 kVA				
9.9.1	Transformer & Switchgear: Annual inspections, Maintenance & Oil samples	Each	1		
Total for BOQ No. 9: Table I - Carried to Summary					

MAINTENANCE AND REPAIRS TO MEDIUM VOLTAGE ELECTRICAL INFRASTRUCTURE: SWITCHGEARS, POWER FACTOR CORRECTION SYSTEM, TRANSFORMERS, RING MAIN UNITS, MINI-SUBSTATIONS, CABLES AT O.R TAMBO INTERNATIONAL AIRPORT FOR A PERIOD OF THREE (3) YEARS.

J. BOQ No. 10 Substation Ring - Substation 3 Ring - Road Way Mini Substations

Item	Description	Unit	Qty.	Each (Rand)	Total (Rand)
10.	BOQ No. 10 Substation 3 Ring - Road Way Mini Substations				
10.1	Mini Substation A: Alstom 500 kVA				
10.1.1	Transformer & Switchgear: Annual inspections, Maintenance & Oil samples	Each	1		
10.2	Mini Substation B: Hawker Siddeley 315 kVA				
10.2.1	Transformer & Switchgear: Annual inspections, Maintenance & Oil samples	Each	1		
10.3	Mini Substation C: Hawker Siddeley 500 kVA				
10.3.1	Transformer & Switchgear: Annual inspections, Maintenance & Oil samples	Each	1		
10.4	Mini Substation D: Hawker Siddeley 315 kVA				
10.4.1	Transformer & Switchgear: Annual inspections, Maintenance & Oil samples	Each	1		
10.5	Mini Substation E: Hawker Siddeley 315 kVA				
10.5.1	Transformer & Switchgear: Annual inspections, Maintenance & Oil samples	Each	1		
10.6	Mini Substation F: Hawker Siddeley 500 kVA				
10.6.1	Transformer & Switchgear: Annual inspections, Maintenance & Oil samples	Each	1		
Total for BOQ No. 10: Table J - Carried to Summary					

MAINTENANCE AND REPAIRS TO MEDIUM VOLTAGE ELECTRICAL INFRASTRUCTURE: SWITCHGEARS, POWER FACTOR CORRECTION SYSTEM, TRANSFORMERS, RING MAIN UNITS, MINI-SUBSTATIONS, CABLES AT O.R TAMBO INTERNATIONAL AIRPORT FOR A PERIOD OF THREE (3) YEARS.

K. BOQ No. 11 Freight/Cargo - Substation 1 Ring: Warehouse Mini Substations

Item	Description	Unit	Qty.	Each (Rand)	Total (Rand)
11.	BOQ No. 11 Freight/Cargo - Substation 1 Ring - Warehouse Mini Substations				
11.1	Mini Substation Warehouse 1: Hawker Siddeley 315 kVA				
11.1.1	Transformer & Switchgear: Annual inspections, Maintenance & Oil samples	Each	1		
11.2	Mini Substation Warehouse 2: Hawker Siddeley 315 kVA				
11.2.1	Transformer & Switchgear: Annual inspections, Maintenance & Oil samples	Each	1		
11.3	Mini Substation Foxtrot: Alstom 500 kVA				
11.3.1	Transformer & Switchgear: Annual inspections, Maintenance & Oil samples	Each	1		
11.4	Golf Mini Substation 1: Alstom 315 kVA				
11.4.1	Transformer & Switchgear: Annual inspections, Maintenance & Oil samples	Each	1		
11.5	Golf Mini Substation 2: Alstom 315 kVA				
11.5.1	Transformer & Switchgear: Annual inspections, Maintenance & Oil samples	Each	1		
Total for BOQ No. 11: Table K - Carried to Summary					

MAINTENANCE AND REPAIRS TO MEDIUM VOLTAGE ELECTRICAL INFRASTRUCTURE: SWITCHGEARS, POWER FACTOR CORRECTION SYSTEM, TRANSFORMERS, RING MAIN UNITS, MINI-SUBSTATIONS, CABLES AT O.R TAMBO INTERNATIONAL AIRPORT FOR A PERIOD OF THREE (3) YEARS.

L. BOQ No. 12 Airfield Substation 9 Ring Mini Substations

Item	Description	Unit	Qty.	Each (Rand)	Total (Rand)
12.	BOQ No. 12 Airfield Substation 9 Ring Mini Substations				
12.1	Mini Substation A: Alstom 315 kVA				
12.1.1	Transformer & Switchgear: Annual inspections, Maintenance & Oil samples	Each	1		
12.2	Mini Substation B (Bid Air Services): Hawker Siddeley 500 kVA				
12.2.1	Transformer & Switchgear: Annual inspections, Maintenance & Oil samples	Each	1		
12.3	Mini Substation C (Workshop): Alstom 315 kVA				
12.3.1	Transformer & Switchgear: Annual inspections, Maintenance & Oil samples	Each	1		
12.4	Mini Substation D (Super South Gate): Alstom 500 kVA				
12.4.1	Transformer & Switchgear: Annual inspections, Maintenance & Oil samples	Each	1		
12.5	Mini Substation E (Long Term Parking): Alstom 500 kVA				
12.5.1	Transformer & Switchgear: Annual inspections, Maintenance & Oil samples	Each	1		
12.5	Mini Substation F (Police Cubicle): Alstom 500 kVA				
12.5.1	Transformer & Switchgear: Annual inspections, Maintenance & Oil samples	Each	1		
12.5	Mini Substation A8: Alstom 500 kVA				
12.5.1	Transformer & Switchgear: Annual inspections, Maintenance & Oil samples	Each	1		
12.5	Bravo Mini Substation 2: Alstom 500 kVA				
12.5.1	Transformer & Switchgear: Annual inspections, Maintenance & Oil samples	Each	1		
12.5	Bravo Mini Substation (Menzies Laundry): Alstom 500 kVA				
12.5.1	Transformer & Switchgear: Annual inspections, Maintenance & Oil samples	Each	1		
Total for BOQ No. 12: Table L - Carried to Summary					

MAINTENANCE AND REPAIRS TO MEDIUM VOLTAGE ELECTRICAL INFRASTRUCTURE: SWITCHGEARS, POWER FACTOR CORRECTION SYSTEM, TRANSFORMERS, RING MAIN UNITS, MINI-SUBSTATIONS, CABLES AT O.R TAMBO INTERNATIONAL AIRPORT FOR A PERIOD OF THREE (3) YEARS.

M. BOQ No. 13 Airfield New OPS Ring Mini Substations

Item	Description	Unit	Qty.	Each (Rand)	Total (Rand)
13.	BOQ No. 13 Airfield New OPS Ring Mini Substations				
13.1	Mini Substation G (Denel): Alstom 500 kVA				
13.1.1	Transformer & Switchgear: Annual inspections, Maintenance & Oil samples	Each	1		
13.2	Mini Substation H: Alstom 500 kVA				
13.2.1	Transformer & Switchgear: Annual inspections, Maintenance & Oil samples	Each	1		
13.3	Mini Substation I: Alstom 500 kVA				
13.3.1	Transformer & Switchgear: Annual inspections, Maintenance & Oil samples	Each	1		
Total for BOQ No. 13: Table M - Carried to Summary					

N. BOQ No. 14 Airfield Substation 10 Ring: Charlie Mini Substations

Item	Description	Unit	Qty.	Each (Rand)	Total (Rand)
14.	BOQ No. 14 Airfield Substation 10 Ring Mini Substations				
14.1	Mini Substation Charlie A: Alstom 315 kVA				
14.1.1	Transformer & Switchgear: Annual inspections, Maintenance & Oil samples	Each	1		
14.2	Mini Substation Charlie B: Alstom 315 kVA				
14.2.1	Transformer & Switchgear: Annual inspections, Maintenance & Oil samples	Each	1		
14.3	Mini Substation Charlie C: Alstom 315 kVA				
14.3.1	Transformer & Switchgear: Annual inspections, Maintenance & Oil samples	Each	1		
Total for BOQ No. 14: Table N - Carried to Summary					

MAINTENANCE AND REPAIRS TO MEDIUM VOLTAGE ELECTRICAL INFRASTRUCTURE: SWITCHGEARS, POWER FACTOR CORRECTION SYSTEM, TRANSFORMERS, RING MAIN UNITS, MINI-SUBSTATIONS, CABLES AT O.R TAMBO INTERNATIONAL AIRPORT FOR A PERIOD OF THREE (3) YEARS.

O. BOQ No. 15 Power Factor Correction Equipment: Terminal

Item	Description	Unit	Qty.	Each (Rand)	Total (Rand)
15.	BOQ No. 15 Power Factor Correction Equipment: Terminal				
15.1	Power Factor Correction Equipment 1: 2000 kVAR, 11kV				
15.1.1	Annual inspections & Maintenance	Each	1		
15.1.2	VCB's - Alstom SBV4/2000/31.5-S1	Each	1		
15.1.3	Current Transformers	Set	1		
15.1.4	Protection Relay	Each	1		
15.2	Power Factor Correction Equipment 2: 2000 kVAR, 11kV				
15.2.1	Annual inspections & Maintenance	Each	1		
15.2.2	VCB's - Alstom SBV4/2000/31.5-S1	Each	1		
15.1.3	Current Transformers	Set	1		
15.1.4	Protection Relay	Each	1		
Total for BOQ No. 15: Table O - Carried to Summary					

MAINTENANCE AND REPAIRS TO MEDIUM VOLTAGE ELECTRICAL INFRASTRUCTURE: SWITCHGEARS, POWER FACTOR CORRECTION SYSTEM, TRANSFORMERS, RING MAIN UNITS, MINI-SUBSTATIONS, CABLES AT O.R TAMBO INTERNATIONAL AIRPORT FOR A PERIOD OF THREE (3) YEARS.

P. BOQ No. 16 Protection Relays - All Substations

Item	Description	Unit	Qty.	Each (Rand)	Total (Rand)
16.	BOQ No. 16 Protection Relays - All Substations				
16.1	Over Current and Earth Fault Protection Relays				
16.1.1	Annual Functionality Test	Each	205		
16.2	Arc Protection Relays				
16.2.1	Annual Functionality Test	Each	39		
16.3	Differential Protection Relays				
16.3.1	Annual Functionality Test	Each	78		
16.4	Current Transformers				
16.4.1	Annual Functionality Test	Each	150		
16.5	Diagnostics				
16.5.1	Partial Discharge Test – Ultrasonic Testing of Medium Voltage Switchgear Panels	Each	283		
16.5	Infra-Red Scanning				
16.5.1	Medium Voltage Switchgear Panels	Each	283		
16.5.2	Medium Voltage Transformers				
16.7	Provisional Sum (Spares and callouts)	Sum			R4 500 000,00
Total for BOQ No. 16: Table P - Carried to Summary					

MAINTENANCE AND REPAIRS TO MEDIUM VOLTAGE ELECTRICAL INFRASTRUCTURE: SWITCHGEARS, POWER FACTOR CORRECTION SYSTEM, TRANSFORMERS, RING MAIN UNITS, MINI-SUBSTATIONS, CABLES AT O.R TAMBO INTERNATIONAL AIRPORT FOR A PERIOD OF THREE (3) YEARS.

Q. BOQ No. 17 Repairs - All Substations

Item	Description	Unit	Qty.	Each (Rand)	Total (Rand)
17.	BOQ No. 17 Repairs - All Substations				
17.1	Transformers Repairs				
17.1.1	Supply and replace transformer oil	210	Litres		
17.1.2	Oil regeneration/ purification	Sum	1		
17.1.3	Supply and replace gaskets	Each			
17.1.4	Supply and replace silica gel	Kg/litre			
17.1.5	Transformer testing	Each	1		
17.2	MV Cabling/ Cable repairs				
17.2.1	Cable fault locating	Each	1		
17.2.2	Cable repairs i.e. Termination/ Joint	Each	1		
17.2.3	Manual Trenching	Meter	1		
17.2.4	TLB Trenching	Hour	1		
17.2.5	Pressure Test & Cable phasing	Each	1		
17.2.6	Bullet Trenching – under paved surfaces/ roads	Meter	1		
17.3	Current Transformers				
17.3.1	Replacement of CTs, testing and commissioning	Each	Set		
17.3.2	Transformer & Switchgear: Annual inspections, Maintenance & Oil samples	Each	1		
17.4	360° Substation Annual Inspections and Reports				
17.4.1	360° Substation Inspections & report	Each	37		
17.5	Electrical Equipment labelling				
17.5.1	Electrical equipment ratings, Instructions, warnings signs etc.	Each	75		
17.6	Auto CAD				
17.6.1	Update single line diagrams as in when required	Each	9		
Total for BOQ No. 17: Table Q - Carried to Summary					

MAINTENANCE AND REPAIRS TO MEDIUM VOLTAGE ELECTRICAL INFRASTRUCTURE: SWITCHGEARS, POWER FACTOR CORRECTION SYSTEM, TRANSFORMERS, RING MAIN UNITS, MINI-SUBSTATIONS, CABLES AT O.R TAMBO INTERNATIONAL AIRPORT FOR A PERIOD OF THREE (3) YEARS.

R. BOQ No. 18 Resources Rates

NB: These rates only apply when there is a breakdown.

Item	Description	Normal Hours	After Business Hours / Night	Saturday Rate	Sunday & Public Holidays Rate
18.	BOQ No. 18 Resources Rates				
18.1	Project Manager		N/A	N/A	N/A
18.2	Technician				
18.3	Artisan				
18.4	Artisan Assistance/ General Worker				

S. BOQ No. 19 Markup for spares/ Services

Item	Description	Markup in % for third party procured goods/ services
19.	BOQ No. 19: Markup for spares/ Services	
19.1	R1 – R20 000	
19.2	R21000 – R40 000	
19.3	R41 – R60 000	
19.4	R61 000 and more	

MAINTENANCE AND REPAIRS TO MEDIUM VOLTAGE ELECTRICAL INFRASTRUCTURE: SWITCHGEARS, POWER FACTOR CORRECTION SYSTEM, TRANSFORMERS, RING MAIN UNITS, MINI-SUBSTATIONS, CABLES AT O.R TAMBO INTERNATIONAL AIRPORT FOR A PERIOD OF THREE (3) YEARS.

T. BOQ No. 20 Summary: Activity Schedule

Item	Description	Total (Rand)
20.	BOQ No. 20 Summary: Activity Schedule	
20.1	Total for BOQ No. 1: Table A - Carried to Summary	
20.2	Total for BOQ No. 2: Table (B-1 + B-2 + B-3 + B-4) - Carried to Summary	
20.3	Total for BOQ No. 3: Table (C-1 + C-2) - Carried to Summary	
20.4	Total for BOQ No. 4: Table (D-1 + D-2) - Carried to Summary	
20.5	Total for BOQ No. 5: Table (E-1 + E-2) - Carried to Summary	
20.6	Total for BOQ No. 6: Table F - Carried to Summary	
20.7	Total for BOQ No. 7: Table G - Carried to Summary	
20.8	Total for BOQ No. 8: Table H - Carried to Summary	
20.9	Total for BOQ No. 9: Table I - Carried to Summary	
20.10	Total for BOQ No. 10: Table J - Carried to Summary	
20.11	Total for BOQ No. 11: Table K - Carried to Summary	
20.12	Total for BOQ No. 12: Table L - Carried to Summary	
20.13	Total for BOQ No. 13: Table M - Carried to Summary	
20.14	Total for BOQ No. 14: Table N - Carried to Summary	
20.14	Total for BOQ No. 15: Table O - Carried to Summary	
20.16	Total for BOQ No. 16: Table P - Carried to Summary	
20.17	Total for BOQ No. 17: Table Q - Carried to Summary	
20.18	Total for BOQ No. 18: Table S - Carried to Summary	N/A
20.19	Total for BOQ No. 19: Table T - Carried to Summary	N/A
Grand Total (Excluding VAT)		
Grand Total (Including VAT)		

MAINTENANCE AND REPAIRS TO MEDIUM VOLTAGE ELECTRICAL INFRASTRUCTURE: SWITCHGEARS, POWER FACTOR CORRECTION SYSTEM, TRANSFORMERS, RING MAIN UNITS, MINI-SUBSTATIONS, CABLES AT O.R TAMBO INTERNATIONAL AIRPORT FOR A PERIOD OF THREE (3) YEARS.

U. BOQ No. 21: Summary of Contract Value

Item	Description	Total
21.	BOQ No. 21: Summary of Contract Value	
21.1	Year 1: Excluding CPI	
21.2	Year 2: Including 4.5 CPI	
21.3	Year 3: Including 4.5 CPI	
21.4	Total Contract Value Excluding VAT (3 Years)	
21.5	Total Contract Value Including VAT (3 Years)	