



NEC3 Engineering & Construction Contract

Between **ESKOM HOLDINGS SOC Ltd**
(Reg No. 2002/015527/30)

and **[Insert at award stage]**
(Reg No. _____)

for Provision of complete design, supply and installation services for PV roof tops and carports, microgrid containers and associated new hybrid technology as part of Eskom's expansion into new markets and piloting new technologies.

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CONTRACT No. [Insert at award stage]

Part C1: Agreements & Contract Data

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[to be inserted from Returnable Documents at award stage]	

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:

PROVISION OF COMPLETE DESIGN, SUPPLY AND INSTALLATION SERVICES FOR PV ROOF TOPS AND CARPORTS, MICROGRID CONTAINERS AND ASSOCIATED NEW HYBRID TECHNOLOGY AS PART OF ESKOM'S EXPANSION INTO NEW MARKETS AND PILOTING NEW TECHNOLOGIES.

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.

Options A	The offered total of the Prices exclusive of VAT is	R [●]
	Sub total	R [●]
	Value Added Tax @ 15% is	R [●]
	The offered total of the amount due inclusive of VAT is ¹	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

Tenderer's CIDB registration number (if applicable)

¹ This total is required by the *Employer* for budgeting purposes only. Actual amounts due will be assessed in terms of the *conditions of contract*.

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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.

Notwithstanding anything contained herein, this agreement comes into effect on the date when the tenderer receives one fully completed original copy signed between them of this document, including the Schedule of Deviations (if any).

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

Signature(s)

Name(s)

Capacity

**for the
Employer**

(Insert name and address of organisation)

Name &
signature of
witness

Date

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:

Signature

Name

Capacity

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

Name & signature of witness

Date

For the Employer

Melvin Naina

Middle Manager- Asset Creation
Eskom Holdings SOC LTD, Megawatt
Park, Maxwell Drive, Sandton,
Johannesburg 2199

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	
		A: Priced contract with activity schedule
	dispute resolution Option	W1: Dispute resolution procedure
	and secondary Options	
		X2 Changes in the law
		X7: Delay damages
		X16: Retention
		X18: Limitation of liability
		X19: Prevention
		Z: Additional conditions of contract
	of the NEC3 Engineering and Construction Contract, April 2013 (ECC3)	
10.1	The <i>Employer</i> is (Name):	Eskom Holdings SOC Ltd (reg no: 2002/015527/30), a state owned company incorporated in terms of the company laws of the Republic of South Africa
	Address	Registered office at Megawatt Park, Maxwell Drive, Sandton, Johannesburg
10.1	The <i>Project Manager</i> is: (Name)	Andile Somsam
	Address	Sanilaws Office Park Cnr Bonza Bay Rd and Quenera Drive Beacon Bay 5214
	Tel	043 703 2146
	Fax	
	e-mail	somsamal@eskom.co.za
10.1	The <i>Supervisor</i> is: (Name)	Lyle Hunter

Address	ESKOM HOLDINGS SOC LIMITED, Sunilaws Office Park, Beacon Bay EAST LONDON, 5205
Tel No.	021 915 2235
Fax No.	
e-mail	hunterhl@eskom.co.za
11.2(13) The <i>works</i> are	Provision of complete design, supply and installation services for PV roof tops and carports, microgrid containers and associated new hybrid technology as part of Eskom's expansion into new markets and piloting new technologies.
11.2(14) The following matters will be included in the Risk Register	<ul style="list-style-type: none"> • Geological Conditions • Inclement weather(rain, wind, snow, hailstorm, heatwave • Labour/community unrest • Management of heritage resources • Non-compliance to approval EIA, leading to work stoppages ,fine and/or prosecution • Normal construction hazards working with machinery • Electrocution • Power supply interruptions or failure • Fire and smoke • Snakes <ul style="list-style-type: none"> • bees • Steep, rocky, unstable and slippery ground • Unforeseen geological conditions. Poor rock quality than anticipated. Unstable rock wedges. Unacceptable water inflows • Normal construction hazards for reinforced concrete works • Disaster Management Act(unforeseen diseases)
11.2(15) The <i>boundaries of the site</i> are	Microgrid, hybrid & new technology solutions at sites that will be identified on an Ad hoc basis as required for the implementation in the Eastern Cape Area of the Cape Coastal Cluster
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	7 working days
2 The <i>Contractor's</i> 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 works is	31 March 2024	
11.2(9)	The <i>key dates</i> and the <i>conditions</i> to be met are:	Condition to be met	key date
		1 Whole of the site]As per the first Accepted Programme
30.1	The <i>access dates</i> are:	Part of the Site	Date
		1 Complete Site	On Contract Date
31.1	The <i>Contractor</i> is to submit a first programme for acceptance within	Two weeks of the Contract Date.	
31.2	The <i>starting date</i> is	15 January 2024	
32.2	The <i>Contractor</i> submits revised programmes at intervals no longer than	2 (two) weeks.	
35.1	The <i>Employer</i> is not willing to take over the works before the Completion Date.	[No data needed if this statement is included]	

4 Testing and Defects

42.2	The <i>defects date</i> is	52 (Fifty two) weeks after Completion of the whole of the works
43.2	The <i>defect correction period</i> is	2 (two) weeks

5 Payment

50.1	The <i>assessment interval</i> is	25th day of each 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	Either 14 (fourteen) days or 30 (thirty) days depending on the <i>contractor's</i> BBBEE status at date of payment
51.4	The <i>interest rate</i> is	the publicly quoted prime rate of interest (calculated on a 365 day year) charged from time to time by the Standard Bank of South Africa Limited (as certified, in the event of any dispute, by any manager of such bank, whose appointment it shall not be necessary to prove) for amounts due in Rands and (ii) the LIBOR rate applicable at the time for

amounts due in other currencies. LIBOR is the 6 month London Interbank Offered Rate quoted under the caption "Money Rates" in The Wall Street Journal for the applicable currency or if no rate is quoted for the currency in question then the rate for United States Dollars, and if no such rate appears in The Wall Street Journal then the rate as quoted by the Reuters Monitor Money Rates Service (or such service as may replace the Reuters Monitor Money Rates Service) on the due date for the payment in question, adjusted *mutatis mutandis* every 6 months thereafter and as certified, in the event of any dispute, by any manager employed in the foreign exchange department of The Standard Bank of South Africa Limited, whose appointment it shall not be necessary to prove.

6 Compensation events

60.1(13)	<p>The place where weather is to be recorded is:</p> <p>The <i>weather measurements</i> to be recorded for each calendar month are,</p> <p>The <i>weather measurements</i> are supplied by</p> <p>The <i>weather data</i> are the records of past <i>weather measurements</i> for each calendar month which were recorded at:</p> <p>and which are available from:</p>	<p>East London town area</p> <p>the cumulative rainfall (mm)</p> <p>the number of days with rainfall more than 10 mm</p> <p>the number of days with minimum air temperature less than 0 degrees Celsius</p> <p>the number of days with snow lying at 09:00 hours South African Time</p> <p>and these measurements:</p> <p>SA Weather, Pretoria, 012-3676000</p> <p>East London, Eastern Cape Province</p> <p>the South African Weather Bureau and included in Annexure A to this Contract Data provided by the <i>Employer</i></p>
60.1(13)	<p>Assumed values for the ten year return <i>weather data</i> for each <i>weather measurement</i> for each calendar month are:</p>	<p>As stated in Annexure A to this Contract Data provided by the <i>Employer</i>.</p> <p>Note: If this arrangement is used, delete the rows above for 60.1(13) and delete this note.</p>

7	Title	<p>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.</p>
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8 Risks and insurance

80.1	<p>These are additional <i>Employer's</i> risks</p> <p>The <i>Employer</i> provides these insurances</p>	<p>None</p> <p>as stated in Annexure C Insurance Schedule</p>
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80.2	from the Insurance Table	(See Annexure B for basic guidance)
80.3	The insurance against loss of or damage to the <i>works</i> , Plant and Materials is to include cover for Plant and Materials provided by the <i>Employer</i> for an amount of	For a sum that is sufficient to provide their replacement on site
80.4	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>
80.5	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 with a limit of Indemnity of not less than R500 000 (Five hundred thousand Rands).
80.6	The <i>Contractor</i> provides these additional insurances 1. Insurance against Professional Indemnity: 2. Insurance against whatever the <i>Contractor's</i> deems necessary which is not sufficiently covered by the insurances required to be effected by the <i>Employer</i>	in line with the <i>Contractor's</i> potential liability, the insurance suggested for these risks does not in any way limit the <i>Contractor's</i> liability in terms of this Contract for these risks
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	
B	Priced contract with bill of quantities	
60.6	The <i>method of measurement</i> is	SANS 1200 published by South African Bureau of Standards and amended as stated in Part C2.1, Pricing Assumptions
11	Data for Option W1	
W1.1	The <i>Adjudicator</i> is	the person selected from the ICE-SA Division (or its successor body) of the South African Institution of Civil Engineering Panel of Adjudicators by the Party intending to refer a dispute to him. (see www.ice-sa.org.za). If the Parties do not agree on an Adjudicator the Adjudicator will be appointed by the Arbitration Foundation of Southern Africa (AFSA).
W1.2(3)	The <i>Adjudicator nominating body</i> is:	the Chairman of ICE-SA a joint Division of the South African Institution of Civil Engineering

		and the London Institution of Civil Engineers. (See www.ice-sa.org.za) or its successor body.
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	East London, Eastern Cape, 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
	- if the arbitration procedure does not state who selects an arbitrator, is	of the Association of Arbitrators (Southern Africa) or its successor body.
12	Data for secondary Option clauses	
X2	Changes in the law	There is no reference to Contract Data in this Option and terms in italics are identified elsewhere in this Contract Data.
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	R10 000 per day
X16	Retention (not used with Option F)	
X16.1	The <i>retention free amount</i> is	Nil
	The <i>retention percentage</i> is	10 %
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:	R0.0 (zero Rand)
X18.2	For any one event, the <i>Contractor's</i> liability to the <i>Employer</i> for loss of or damage to the <i>Employer's</i> property is limited to:	the amount of the deductibles relevant to the event described in the insurance policy format selected in the data for clause 84.1 above, which policy is available on http://www.eskom.co.za/live/content.php?Item_ID=9248
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	The greater of <ul style="list-style-type: none"> the total of the Prices at the Contract Date and the amounts excluded and unrecoverable from the <i>Employer's</i> assets policy for correcting the Defect (other than the resulting physical damage which is not excluded) plus R15M first amount payable in terms of the <i>Employer's</i> assets policy
X18.4	The <i>Contractor's</i> total liability to the	the total of the Prices other than for the

	<i>Employer</i> for all matters arising under or in connection with this contract, other than excluded matters, is limited to:	<p>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 and • infringement of an intellectual property right.
X18.5	The <i>end of liability date</i> is	<p>(i) seven years years after the <i>defects date</i> for latent Defects and</p> <p>(ii) 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.</p> <p>A latent Defect is a Defect which would not have been discovered on reasonable inspection by the <i>Employer</i> or the <i>Supervisor</i> before the <i>defects date</i>, without requiring any inspection not ordinarily carried out by the <i>Employer</i> or the <i>Supervisor</i> during that period. If the <i>Employer</i> or the <i>Supervisor</i> do undertake any inspection over and above the reasonable inspection, this does not place a greater responsibility on the <i>Employer</i> or the <i>Supervisor</i> to have discovered the Defect.</p>
Z	The <i>Additional conditions of contract</i> are	Z1 to Z15 always apply.
Z1	Cession delegation and assignment	
Z1.1	The <i>Contractor</i> does not cede, delegate or assign any of its rights or obligations to any person without the written consent of the <i>Employer</i> .	
Z1.2	Notwithstanding the above, the <i>Employer</i> may on written notice to the <i>Contractor</i> cede and delegate its rights and obligations under this contract to any of its subsidiaries or any of its present divisions or operations which may be converted into separate legal entities as a result of the restructuring of the Electricity Supply Industry.	
Z2	Joint ventures	
Z2.1	If the <i>Contractor</i> constitutes a joint venture, consortium or other unincorporated grouping of two or more persons or organisations then these persons or organisations are deemed to be jointly and severally liable to the <i>Employer</i> for the performance of this contract.	

- Z2.2 Unless already notified to the *Employer*, the persons or organisations notify the *Project Manager* within two weeks of the Contract Date of the key person who has the authority to bind the *Contractor* on their behalf.
- Z2.3 The *Contractor* does not alter the composition of the joint venture, consortium or other unincorporated grouping of two or more persons without the consent of the *Employer* having been given to the *Contractor* in writing.

Z3 Change of Broad Based Black Economic Empowerment (B-BBEE) status

- Z3.1 Where a change in the *Contractor's* legal status, ownership or any other change to his business composition or business dealings results in a change to the *Contractor's* B-BBEE status, the *Contractor* notifies the *Employer* within seven days of the change.
- Z3.2 The *Contractor* is required to submit an updated verification certificate and necessary supporting documentation confirming the change in his B-BBEE status to the *Project Manager* within thirty days of the notification or as otherwise instructed by the *Project Manager*.
- Z3.3 Where, as a result, the *Contractor's* B-BBEE status has decreased since the Contract Date the *Employer* may either re-negotiate this contract or alternatively, terminate the *Contractor's* obligation to Provide the Works.
- Z3.4 Failure by the *Contractor* to notify the *Employer* of a change in its B-BBEE status may constitute a reason for termination. If the *Employer* terminates in terms of this clause, the procedures on termination are P1, P2 and P3 as stated in clause 92, and the amount due is A1 and A3 as stated in clause 93.

Z4 Confidentiality

- Z4.1 The *Contractor* does not disclose or make any information arising from or in connection with this contract available to Others. This undertaking does not, however, apply to 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). Should the *Contractor* disclose information to Others in terms of clause 25.1, the *Contractor* ensures that the provisions of this clause are complied with by the recipient.
- Z4.2 If the *Contractor* is uncertain about whether any such information is confidential, it is to be regarded as such until notified otherwise by the *Project Manager*.
- Z4.3 In the event that the *Contractor* is, at any time, required by law to disclose any such information which is required to be kept confidential, the *Contractor*, to the extent permitted by law prior to disclosure, notifies the *Employer* so that an appropriate protection order and/or any other action can be taken if possible, prior to any disclosure. In the event that such protective order is not, or cannot, be obtained, then the *Contractor* may disclose that portion of the information which it is required to be disclosed by law and uses reasonable efforts to obtain assurances that confidential treatment will be afforded to the information so disclosed.
- Z4.4 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*.
- Z4.5 The *Contractor* ensures that all his subcontractors abide by the undertakings in this clause.

Z5 Waiver and estoppel: Add to core clause 12.3:

- Z5.1 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.

Z6 Health, safety and the environment: Add to core clause 27.4

- Z6.1 The *Contractor* undertakes to take all reasonable precautions to maintain the health and safety of persons in and about the execution of the *works*. Without limitation the *Contractor*:
- accepts that the *Employer* may appoint him as the "Principal Contractor" (as defined and provided for under the Construction Regulations 2014 (promulgated under the Occupational Health & Safety Act 85 of 1993) ("the Construction Regulations") for the Site;
 - warrants that the total of the Prices as at the Contract Date includes a sufficient amount for proper compliance with the Construction Regulations, all applicable health & safety laws and regulations and the health and safety rules, guidelines and procedures provided for in this contract and generally for the proper maintenance of health & safety in and about the execution of *works*; and
 - undertakes, in and about the execution of the *works*, to comply with the Construction Regulations and with all applicable health & safety laws and regulations and rules, guidelines and procedures otherwise provided for under this contract and ensures that his Subcontractors, employees and others under the *Contractor's* direction and control, likewise observe and comply with the foregoing.
- Z6.2 The *Contractor*, in and about the execution of the *works*, complies with all applicable environmental laws and regulations and rules, guidelines and procedures otherwise provided for under this contract and ensures that his Subcontractors, employees and others under the *Contractor's* direction and control, likewise observe and comply with the foregoing.

Z7 Provision of a Tax Invoice and interest. Add to core clause 51

- Z7.1 Within one week of receiving a payment certificate from the *Project Manager* in terms of core clause 51.1, the *Contractor* provides the *Employer* with a tax invoice in accordance with the *Employer's* procedures stated in the Works Information, showing the amount due for payment equal to that stated in the payment certificate.
- Z7.2 If the *Contractor* does not provide a tax invoice in the form and by the time required by this contract, the time by when the *Employer* is to make a payment is extended by a period equal in time to the delayed submission of the correct tax invoice. Interest due by the *Employer* in terms of core clause 51.2 is then calculated from the delayed date by when payment is to be made.
- Z7.3 The *Contractor* (if registered in South Africa in terms of the companies Act) is required to comply with the requirements of the Value Added Tax Act, no 89 of 1991 (as amended) and to include the *Employer's* VAT number 4740101508 on each invoice he submits for payment.

Z8 Notifying compensation events

- Z8.1 Delete from the last sentence in core clause 61.3, "unless the *Project Manager* should have notified the event to the *Contractor* but did not".

Z9 Employer's limitation of liability

- Z9.1 The *Employer's* liability to the *Contractor* for the *Contractor's* indirect or consequential loss is limited to R0.00 (zero Rand)
- Z9.2 The *Contractor's* entitlement under the indemnity in 83.1 is provided for in 60.1(14) and the *Employer's* liability under the indemnity is limited.

Z10 Termination: Add to core clause 91.1, at the second main bullet point, fourth sub-bullet point, after the words "against it":

Z10.1 or had a business rescue order granted against it.

Z11 Addition to secondary Option X7 Delay damages (if applicable in this contract)

Z11.1 If the amount due for the *Contractor's* payment of delay damages reaches the limits stated in this Contract Data for Option X7 or Options X5 and X7 used together, the *Employer* may terminate the *Contractor's* obligation to Provide the Works using the same procedures and payment on termination as those applied for reasons R1 to R15 or R18 stated in the Termination Table.

Z12 Ethics

For the purposes of this Z-clause, the following definitions apply:

Affected Party means, as the context requires, any party, irrespective of whether it is the *Contractor* or a third party, such party's employees, agents, or Subcontractors or Subcontractor's employees, or any one or more of all of these parties' relatives or friends,

Coercive Action means to harm or threaten to harm, directly or indirectly, an Affected Party or the property of an Affected Party, or to otherwise influence or attempt to influence an Affected Party to act unlawfully or illegally,

Collusive Action means where two or more parties co-operate to achieve an unlawful or illegal purpose, including to influence an Affected Party to act unlawfully or illegally,

Committing Party means, as the context requires, the *Contractor*, or any member thereof in the case of a joint venture, or its employees, agents, or Subcontractor or the Subcontractor's employees,

Corrupt Action means the offering, giving, taking, or soliciting, directly or indirectly, of a good or service to unlawfully or illegally influence the actions of an Affected Party,

Fraudulent Action means any unlawfully or illegally intentional act or omission that misleads, or attempts to mislead, an Affected Party, in order to obtain a financial or other benefit or to avoid an obligation or incurring an obligation,

Obstructive Action means a Committing Party unlawfully or illegally destroying, falsifying, altering or concealing information or making false statements to materially impede an investigation into allegations of Prohibited Action, and

Prohibited Action means any one or more of a Coercive Action, Collusive Action Corrupt Action, Fraudulent Action or Obstructive Action.

Z12.1 A Committing Party may not take any Prohibited Action during the course of the procurement of this contract or in execution thereof.

Z12.2 The *Employer* may terminate the *Contractor's* obligation to Provide the Services if a Committing Party has taken such Prohibited Action and the *Contractor* did not take timely and appropriate action to prevent or remedy the situation, without limiting any other rights or remedies the *Employer* has. It is not required that the Committing Party had to have been found guilty, in court or in any other similar process, of such Prohibited Action before the *Employer* can terminate the *Contractor's* obligation to Provide the Services for this reason.

Z12.3 If the *Employer* terminates the *Contractor's* obligation to Provide the Services for this reason, the amounts due on termination are those intended in core clauses 92.1 and 92.2.

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- Z12.4 A Committing Party co-operates fully with any investigation pursuant to alleged Prohibited Action. Where the *Employer* does not have a contractual bond with the Committing Party, the *Contractor* ensures that the Committing Party co-operates fully with an investigation.

Z13 Insurance

Z 13.1 Replace core clause 84 with the following:

Insurance cover 84

- 84.1** When requested by a Party, the other Party provides certificates from his insurer or broker stating that the insurances required by this contract are in force.
- 84.2** The *Contractor* provides the insurances stated in the Insurance Table A.
- 84.3** The insurances provide cover for events which are at the *Contractor's* risk from the *starting date* until the earlier of Completion and the date of the termination certificate.

INSURANCE TABLE A

Insurance against	Minimum amount of cover or minimum limit of indemnity
Loss of or damage to the works, Plant and Materials	The replacement cost where not covered by the <i>Employer's</i> insurance The <i>Employer's</i> policy deductible, as Contract Date, where covered by the <i>Employer's</i> insurance
Loss of or damage to Equipment	The replacement cost
Liability for loss of or damage to property (except the works, Plant and 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	<u>Loss of or damage to property</u> <u><i>Employer's property</i></u> The replacement cost where not covered by the <i>Employer's</i> insurance The <i>Employer's</i> policy deductible, as Contract Date, where covered by the <i>Employer's</i> insurance <u>Other property</u> The replacement cost <u>Bodily injury to or death of a person</u> The amount required by applicable law
Liability for 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	The amount required by the applicable law

Z 13.2**Replace core clause 87 with the following:**

The *Employer* provides the insurances stated in the Insurance Table B.

INSURANCE TABLE B

Insurance against or name of policy	Minimum amount of cover or minimum of indemnity
Assets All Risk	Per the insurance policy document
Contract Works insurance	Per the insurance policy document
Environmental Liability	Per the insurance policy document
General and Public Liability	Per the insurance policy document
Transportation (Marine)	Per the insurance policy document
Motor Fleet and Mobile Plant	Per the insurance policy document
Terrorism	Per the insurance policy document
Cyber Liability	Per the insurance policy document
Nuclear Material Damage and Business Interruption	Per the insurance policy document
Nuclear Material Damage Terrorism	Per the insurance policy document

Z14 Nuclear Liability

- Z14.1 The *Employer* is the operator of the Koeberg Nuclear Power Station (KNPS), a nuclear installation, as designated by the National Nuclear Regulator of the Republic of South Africa, and is the holder of a nuclear licence in respect of the KNPS.
- Z14.2 The *Employer* is solely responsible for and indemnifies the *Contractor* or any other person against any and all liabilities which the *Contractor* or any person may incur arising out of or resulting from nuclear damage, as defined in Act 44 of 1999, save to the extent that any liabilities are incurred due to the unlawful intent of the *Contractor* or any other person or the presence of the *Contractor* or that person or any property of the *Contractor* or such person at or in the KNPS or on the KNPS site, without the permission of the *Employer* or of a person acting on behalf of the *Employer*.
- Z14.3 Subject to clause Z14.4 below, the *Employer* waives all rights of recourse, arising from the aforesaid, save to the extent that any claims arise or liability is incurred due or attributable to the unlawful intent of the *Contractor* or any other person, or the presence of the *Contractor* or that person or any property of the *Contractor* or such person at or in the KNPS or on the KNPS site, without the permission of the *Employer* or of a person acting on behalf of the *Employer*.
- Z14.4 The *Employer* does not waive its rights provided for in section 30 (7) of Act 44 of 1999, or any replacement section dealing with the same subject matter.
- Z14.5 The protection afforded by the provisions hereof shall be in effect until the KNPS is decommissioned.

Z15 Asbestos

For the purposes of this Z-clause, the following definitions apply:

AAIA	means approved asbestos inspection authority.
ACM	means asbestos containing materials.
AL	means action level, i.e. a level of 50% of the OEL, i.e. 0.1 regulated asbestos fibres per ml of air measured over a 4 hour period. The value at which proactive actions is required in order to control asbestos exposure to prevent exceeding the OEL.
Ambient Air	means breathable air in area of work with specific reference to breathing zone, which is defined to be a virtual area within a radius of approximately 30cm from the nose inlet.
Compliance Monitoring	means compliance sampling used to assess whether or not the personal exposure of workers to regulated asbestos fibres is in compliance with the Standard's requirements for safe processing, handling, storing, disposal and phase-out of asbestos and asbestos containing material, equipment and articles.
OEL	means occupational exposure limit.
Parallel Measurements	means measurements performed in parallel, yet separately, to existing measurements to verify validity of results.
Safe Levels	means airborne asbestos exposure levels conforming to the Standard's requirements for safe processing, handling, storing, disposal and phase-out of asbestos and asbestos containing material, equipment and articles.
Standard	means the <i>Employer's</i> Asbestos Standard 32-303: Requirements for Safe Processing, Handling, Storing, Disposal and Phase-out of Asbestos and Asbestos Containing Material, Equipment and Articles.
SANAS	means the South African National Accreditation System.
TWA	means the average exposure, within a given workplace, to airborne asbestos fibres, normalised to the baseline of a 4 hour continuous period, also applicable to short term exposures, i.e. 10-minute TWA.

- Z15.1 The *Employer* ensures that the Ambient Air in the area where the *Contractor* will Provide the Services conforms to the acceptable prescribed South African standard for asbestos, as per the regulations published in GNR 155 of 10 February 2002, under the Occupational Health and Safety Act, 1993 (Act 85 of 1993) ("Asbestos Regulations"). The OEL for asbestos is 0.2 regulated asbestos fibres per millilitre of air as a 4-hour TWA, averaged over any continuous period of four hours, and the short term exposure limit of 0.6 regulated asbestos fibres per millilitre of air as a 10-minute TWA, averaged over any 10 minutes, measured in accordance with HSG248 and monitored according to HSG173 and OESSM.
- Z15.2 Upon written request by the *Contractor*, the *Employer* certifies that these conditions prevail. All measurements and reporting are effected by an independent, competent, and certified occupational hygiene inspection body, i.e. a SANAS accredited and Department of Employment and Labour approved AAIA. The *Contractor* may perform Parallel Measurements and related control measures at the *Contractor's* expense. For the purposes of compliance the results generated from Parallel Measurements are evaluated only against South African statutory limits as detailed in clause Z15.1. Control measures conform to the requirements stipulated in the AAIA-approved asbestos work plan.
- Z15.3 The *Employer* manages asbestos and ACM according to the Standard.
- Z15.4 In the event that any asbestos is identified while Providing the Services, a risk assessment is conducted and if so required, with reference to possible exposure to an airborne concentration of above the AL for asbestos, immediate control measures are implemented and relevant air monitoring conducted in order to declare the area safe.

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- Z15.5 The *Contractor's* personnel are entitled to stop working and leave the contaminated area forthwith until such time that the area of concern is declared safe by either Compliance Monitoring or an AAIA approved control measure intervention, for example, per the emergency asbestos work plan, if applicable.
- Z15.6 The *Contractor* continues to Provide the Services, without additional control measures presented, on presentation of Safe Levels. The contractually agreed dates to Provide the Services, including the Completion Date, are adjusted accordingly. The contractually agreed dates are extended by the notification periods required by regulations 3 and 21 of the Asbestos Regulations, 2001.
- Z15.7 Any removal and disposal of asbestos, asbestos containing materials and waste, is done by a registered asbestos contractor, instructed by the *Employer* at the *Employer's* expense, and conducted in line with South African legislation.

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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.

RAINFALL ANALYSIS FOR: 0059572A3 EAST LONDON Lat:-33.0330 Lon:27.8330 Height:124 m												
DATA REQUESTED 1990 to 2010												
Data for the Average Calculation is not used if:												
There are more than five consecutive days of accumulation												
The data for certain days in the month is not available												
The accumulation period occurred at the end of the month												
Data for the Frequency calculation is not used if:												
The data for certain days in the month is not available												
The accumulation period occurred at the end of the month												
Average Number of Rain Days in the Specified Range:												
Month	Average Monthly Rainfall (mm)	Standard Deviation	Average Number of Rain Days per Month	Number of Months	1 - 5 mm	5.1 - 10mm	10.1 - 20mm	20.1 - 50mm	50.1 - 100 mm	> 100 mm	Maximum 24-hour Rainfall (mm)	Date of Maximum 24-hour Rainfall
JAN	109,5	34,9	16,2	5,0	3,2	1,6	1,8	1,0	0,4	0,0	69,6	1995/01/15
FEB	81,3	45,6	15,8	4,0	3,3	1,8	1,5	1,3	0,0	0,0	41,4	1995/02/28
MAR	57,5	32,5	18,0	4,0	4,3	1,5	1,3	0,8	0,0	0,0	25,9	1994/03/07
APR	45,6	37,5	12,5	4,0	3,3	0,3	0,8	0,8	0,0	0,0	31,7	1995/04/08
MAY	14,7	16,6	8,0	5,0	1,0	0,6	0,2	0,2	0,0	0,0	30,5	1995/05/26
JUN	15,4	10,1	5,6	5,0	1,0	0,6	0,6	0,0	0,0	0,0	18,4	1993/06/13
JUL	16,3	15,4	6,8	5,0	1,6	0,2	0,4	0,2	0,0	0,0	25,3	1995/07/12
AUG	57,7	48,9	9,0	5,0	1,4	0,8	0,2	1,2	0,2	0,0	52,0	1994/08/02
SEP	58,9	67,5	11,6	5,0	2,4	0,6	0,4	0,2	0,6	0,0	62,8	1993/09/23
OCT	73,6	16,9	17,2	5,0	4,0	1,6	1,6	1,0	0,0	0,0	38,3	1994/10/09
NOV	122,9	106,4	17,8	5,0	3,6	1,4	1,8	1,4	0,4	0,0	75,4	1996/11/06
DEC	145,3	70,5	17,8	5,0	3,8	2,2	2,8	1,4	0,4	0,0	82,5	1993/12/03
YR	798,8		156,3		32,8	13,1	13,3	9,4	2,0	0,0		
Limitation												
The User shall not at any time, disclose or divulge the Specified Data to any person whomsoever except on a need to know basis to those of its employees and officers who require knowledge thereof. The User will treat the Information as private and confidential to SAWS and will take all reasonable precautions to protect the Information from unauthorised use, reproduction or distribution. The South African Weather Service (SAWS) does not give any representation or warranty that the Specified Data contains no errors, is complete or up to date or will not infringe any third party intellectual property rights.												
The User assumes the sole risk of interpreting and applying the Specified Data and SAWS is not in any way liable for any loss, damage or injury suffered by the User or any other person, due to the use or possession of the Specified Data or the existence of errors in the Specified Data.												

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

Annexure B: Insurance provided by the Employer

Provision of complete design, supply and installation services for PV roof tops and carports, microgrid containers and associated new hybrid technology as part of Eskom's expansion into new markets and piloting new technologies.

These notes are provided as guidance to tendering contractors and the Contractor about the insurance provided by the Employer. Details of the insurance itself are available from the internet web link given below.

1. For the purpose of works contracts, insurance provided by Eskom (the *Employer*) has been arranged on the basis of "project" or "contract" value, where the value is the total of the Prices at Completion of the whole of the works including VAT.

A "project" is a collection of contracts or work packages to be undertaken as part of a single identified capital expansion or refurbishment of a particular asset or facility.

A "contract" is a single contract not linked to or being part of a "project".

2. For ECC3 there are three main "formats" of cover and deductible structure; Format A, Format B and Format Dx.

Format A is for a project or contract value less than or equal to R350M (three hundred and fifty million Rand) inclusive of VAT.

Format B is for a project or contract value greater than R350M (three hundred and fifty million Rand) inclusive of VAT.

In the case of contracts / packages within a project:

- For a contract / package of R50M which is part of a R400M project, Format B will apply
- For a contract / package of R250M which is part of a R6 billion project, Format B will apply;
- For a contract / package of R120M which is part of a R350M project Format A will apply;

For a contract which is not part of a project the same limits apply:

- For a contract of R50M, Format A will apply
- For a contract of R355M, Format B will apply.

Format Dx applies only to Distribution Division projects and contracts. If a Distribution Division project or contract exceeds the Format A limit, the Eskom Insurance Management Services [EIMS] need to be contacted for advice on how to formulate the insurance cover. Cover and deductibles for Distribution Division are per the relevant policy available on the internet web link given below.

Format A generally applies to Transmission Division projects and contracts. If a Transmission Division project or contract exceeds the Format A limit, the Eskom Insurance Management Services [EIMS] need to be contacted for advice on how to formulate the insurance cover.

3. Tendering contractors should note that cover provided by the *Employer* is only per the policies available on the internet web link listed below and may not be the cover required by the tendering contractor or as intended by each of the listed insurances in the left hand column of the Insurance Table in clause 84.2. In terms of clause 84.1 "the *Contractor* provides the insurances stated in the Insurance Table except any insurance which the *Employer* is to provide". Hence the *Contractor* provides insurance which the *Employer* does not provide and in cases where the *Employer* does provide insurance the *Contractor* insures for the difference between what the Insurance Table requires and what the *Employer* provides.
4. When the Marine Insurance is required the *Contractor* needs to obtain a copy of the latest edition of Eskom's Marine Policies Procedures found at internet website given below.
5. **Further information and full details of all Eskom provided policies and procedures may be obtained from:**

http://www.eskom.co.za/live/content.php?Item_ID=9248

Annexure C: The Employer's Panel of Adjudicators

The following persons listed in alphabetical order of their surname have indicated their willingness to be included in the Eskom Panel of Adjudicators. Their CV's may be obtained by using the contact details provided.

Name	Location	Contact details (phone & e mail)
Nigel ANDREWS	Gauteng	+27 11 836-6760 nigela@quoin.net
Andrew BAIRD	Gauteng	+27 11 803 3008 andrewbaird@ecsconsult.co.za
Christopher BINNINGTON	Gauteng	+27 11 888-6141 cdb@bca.co.za
Peter HIGGINS	UK	+44 1293 873 868 peterhiggins@pdconsult.co.uk
Bruce LEECH	Gauteng	+27 11 290 4000 leech@counsel.co.za
Nigel NILEN	Gauteng	+27 11 465 3601; nilences@global.co.za
Peter THURLOW	Gauteng	+27 11 787 6226 info@thurlowassoc.com

Information about the Panel and appointment of the selected *Adjudicator* is available from Eskom Supply Chain Operations management, by contacting Leighton Itholeng (Tel.: +27 (0)11 800 4031) (Fax :+27 (0)86 668 0419) E-mail: Leighton.Itholeng@eskom.co.za

Provision of complete design, supply and installation services for PV roof tops and carports, microgrid containers and associated new hybrid technology as part of Eskom's expansion into new markets and piloting new technologies.

C1.2 Contract Data

Part two - Data provided by the *Contractor*

[Instructions to the contract compiler: (delete this notes before issue to tenderers with an enquiry)

Whenever a cell is shaded in the left hand column it denotes this data is optional. If not required select and delete the whole row, otherwise insert the required Data.]

Notes to a tendering contractor:

1. Please read both the NEC3 Engineering and Construction Contract (April 2013) and the relevant parts of its Guidance Notes (ECC3-GN)¹ in order to understand the implications of this Data which the tenderer is required to complete. An example of the completed Data is provided on pages 156 to 158 of the ECC3 (April 2013) Guidance Notes.
2. The number of the clause which requires the data is shown in the left hand column for each statement however other clauses may also use the same data
3. Where a form field like this [] appears, data is required to be inserted relevant to the option selected. Click on the form field **once** and type in the data. Otherwise complete by hand and in ink.

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: 1 Name: Job: Responsibilities: Qualifications: Experience: 2 Name: Job: Responsibilities: Qualifications: Experience:	

¹ Available from Engineering Contract Strategies Tel 011 803 3008, Fax 011 803 3009 or see www.ecs.co.za

		CV's (and further key persons data including CVs) are appended to Tender Schedule entitled .	
11.2(3)	The <i>completion date</i> for the whole of the <i>works</i> is	TBA	
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	(in figures) (in words), excluding VAT	
B	Priced contract with bill of quantities		
11.2(21)	The <i>bill of quantities</i> is in		
11.2(31)	The tendered total of the Prices is	(in figures) (in words), excluding VAT	
C	Target contract with activity schedule		
11.2(20)	The <i>activity schedule</i> is in		
11.2(30)	The tendered total of the Prices is	(in figures) (in words), excluding VAT	
D	Target contract with bill of quantities		
11.2(21)	The <i>bill of quantities</i> is in		
11.2(31)	The tendered total of the Prices is	(in figures) (in words), excluding VAT	
F	Management contract		
20.2	Work which the <i>Contractor's</i> will do himself is	Activity	price (lump sum or rate)
	Data for Schedules of Cost Components	Note "SCC" means Schedule of Cost Components starting on page 60, and "SSCC" means Shorter Schedule of Cost Components starting on page 63 of ECC3 (April 2013).	

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 %		
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
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 & 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 SCC & SSCC	The percentage for design overheads is			
63 in SCC & SSCC	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 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	%		
22 in SSCC	The rates of other Equipment are:	Equipment	Size or capacity	Rate

PART 2: PRICING DATA

ECC3 Option A

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

C2.1 Pricing assumptions: Option A

1. How work is priced and assessed for payment

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

Identified and defined terms 11
11.2 (20) The Activity Schedule is the *activity schedule* unless later changed in accordance with this contract.

(27) The Price for Work Done to Date is the total of the Prices for

- 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.

This confirms that 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.

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 specifications and descriptions of the work or any constraints on 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.

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". Ideally the tendering contractor will develop a high level programme first then resource each activity and thus arrive at the lump sum price for that activity both of which can be entered into the *activity schedule*.

4. Preparing the *activity schedule*

Generally it is the tendering contractor who prepares the *activity schedule* by breaking down the work described within the Works Information into suitable activities which can be well defined, shown on a programme and priced as a lump sum.

The *Employer*, in his Instructions to Tenderers 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.

It is assumed that in preparing his *activity schedule* the *Contractor*:

- Has taken account of the guidance given in the ECC3 Guidance Notes pages 19 and 20;
- Understands the function of the Activity Schedule and how work is priced and paid for;
- Is aware of the need to link the Activity Schedule to activities shown on his programme;
- Has listed and priced activities in the *activity schedule* which 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;
- Has priced work he decides not to show as a separate activity within the Prices of other listed activities in order to fulfil the obligation to complete the *works* for the tendered total of the Prices.
- Understands 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.

C2.2 the *activity schedule*

Item No.	Activity description	Price
	In general, the work covered by this Contract includes: Turnkey solutions, as and when required, in terms of initiatives in respect of design, supply and installation of new hybrid technology services comprising works including, but not limited, to PV roof tops and carports, inverters, Battery Storage (BESS), microgrid containers and mini-grid pilot solutions	
1.1	Design	
1.2	Material supply for installation and maintenance	
1.3	Works installation	
1.4	Skills transfer to Eskom internal staff	

PROVISION OF COMPLETE DESIGN, SUPPLY AND INSTALLATION SERVICES FOR PV
ROOF TOPS AND CARPORTS, MICROGRID CONTAINERS AND ASSOCIATED NEW HYBRID
TECHNOLOGY AS PART OF ESKOM'S EXPANSION INTO NEW MARKETS AND PILOTING
NEW TECHNOLOGIES

PART 3: SCOPE OF WORK

Document reference	Title	No of pages
C3.1	This cover page	1
	<i>Employer's Works Information</i>	34
	Total number of pages	35

C3.1: EMPLOYER'S WORKS INFORMATION

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1 Description of the works

1.1 Executive overview

In general, the work covered by this Contract includes:

Turnkey solutions, as and when required, in terms of initiatives in respect of design, supply and installation of new hybrid technology services comprising works including, but not limited, to PV roof tops and carports, inverters, Battery Storage (BESS), microgrid containers and mini-grid pilot solutions

- Design
- Material supply for installation and maintenance
- Works installation
- Skills transfer to Eskom internal staff

1.2 Employer's objectives and purpose of the works

List of Material and Suppliers					
Pole x 1 cross-arm joint assembly D7301 (2 units)					
D3015	163862	ROD, THREADED GALV M20x450mm WASH+NUTS [2 x curved washer, 4 x round flat washer, 3 x spring washers, 4 x nuts, 1 x bonding clip]	Telscrew Products (TSP), George Stott (GS), Cullin Africa (CA), Midvaal Threading (MT), Metpress (MTP), Zodiac Engineering (ZE)	ea	2
Stay assembly D7310 (5 units)					
D7047	185950	Double guygrip	PLP	ea	2
D7036	0000211	WIRE STRAND,ST 15X2.65 1100MPA	Cape Gate Marepha Wuxi Jiangnan Cable co.Ltd, Wire Rope Plant oro Golden Dynasty SA Ndlovu Wire Ropes	m	18
D7035	0010883	Guygrip	PLP	ea	2
D3026	163399	THIMBLE, ST TO FIT 14mm DIA WIRE	Telscrew Products (TSP), George Stott (GS), Cullin Africa (CA), Midvaal Threading (MT), Metpress (MTP), Zodiac Engineering (ZE)	ea	2
D7023	0163384	STAYROD 133kN 2400x24 ADJUST (Complete with: 150x150x6 BACKING PLATE and required STAY PLATE with Centralized Square Holes that allows fitment of the Square Neck)	Telscrew Products (TSP), George Stott (GS), Cullin Africa (CA)	ea	2
D3172	0243422	PLATE, STAY 450x450x6 80x26 SLOT (Square, for use on M20x2m, M24x2.4m Stayrods)	Telscrew Products (TSP), George Stott (GS), Midvaal Threading (MT), Cullin Africa (CA), Metpress (MP), Zodiac Engineering (ZE)	ea	2
D3090	163803	Coach screw	Telscrew Products (TSP), Action Bolt (CA), Impala Bolt and Nut (ZE)	ea	6
Eye Bolt Assembly D7314 (3 units)					
D3005	163768	BOLT, EYE GALV M20x250mm	Telscrew Products (TSP), George Stott (GS), Midvaal Threading (MT), Preformed Line Products (PLP), East Rand Forging (ERF)	ea	3
Strain conductor string assembly D7311 (3 units)					
D7017	0163406	SHACKLE,STRAIGHT BOLT TYPE 120kN	Telscrew Products (TSP), Midvaal Threading (MT), Preformed Line Products (PLP), East Rand Forging (ERF), Cullin Africa (CA)	ea	3
D7008	0010258	BALL-EYE OVAL 16mm 120kN	Telscrew Products (TSP), Midvaal Threading (MT), Preformed Line Products (PLP), East Rand Forging (ERF), Cullin Africa (CA)	ea	3

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1. STANDARDS

Doc No.	Rev/Edition	Doc Title	Attached
Part 2 Earthing - Standards			
DST_34-1245	0	Standard: Substation earthing. Drawings (D-DT-5240)	No
Part 7 Substations - Standards			
SCSASABB5	1	Standard for road works for substations and access roads	No
DSP_34-1241	0	Distribution Group's specific requirements for the use of furniture in substation buildings	No
DST_34-209	0	MV cabling in substations	No
DISASAAQ1	5	Quality checking of distribution substation construction before handing over for commercial operation	No
Part 22 Cables - Standards			
DST_34-1177	0	General Information and requirements for high-voltage cable systems	No
DST_34-937	0	Insulation requirements for medium voltage cable-connected equipment with air-filled enclosures	No
DST_34-1176	0	Distribution Standard Part 22: Cables Section 0: General Information and requirements for low-voltage cable systems. Drawings	No
DST_34-209	1	MV cabling in substations	No
Asbestos Handling - Standards			
ESKPAAG5	1	Distribution Standard: Requirements for the safe processing, storing, removing and handling of asbestos and asbestos containing material, equipment and articles	No
Equipment Labels			
DSP-34-254	1	Manufacturing specification for Distribution equipment labels	No
Stoning			
240-108982466	1	Standard for HV yard stone in Eskom substation	No
SANS - Standards			
SANS 1200A	3	General	No
SANS 1200C	1	Site clearance	No
SANS 1200D	3	Earthworks	No
SANS 1200DB	3	Earthworks (Trenches)	No
SANS 1200LC	1	Cable ducts	No
SANS 1200L	2	Drainage	No
SANS 1200G	1	Concrete	No

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SANS 1200H	3	Steel erection	No
SANS 1200MJ	1	Civil Eng. Construction of segmented paving	No
SANS 1058	2.01	Quality of concrete paving blocks	No
SANS 920	2.03	Reinforcement	No
SANS 121	2	Galvanizing	No
SANS 227	4.04	Face bricks	No
SANS 82	3	Bending of reinforcing	No
SANS 10044-1	3	Welding	No
General			
ESKARAAG4		All work is to be carried out in strict terms of Operating Regulations for High Voltage Systems – With special reference to (5.03.6.3) & Prohibition Notice's	No

2 DESCRIPTION OF WORKS

3 IN GENERAL, THE WORK COVERED BY THIS CONTRACT INCLUDES:

4 TURNKEY SOLUTIONS, AS AND WHEN REQUIRED, IN TERMS OF INITIATIVES IN RESPECT OF DESIGN, SUPPLY AND INSTALLATION OF NEW HYBRID TECHNOLOGY SERVICES COMPRISING WORKS INCLUDING, BUT NOT LIMITED, TO PV ROOF TOPS AND CARPORTS, INVERTERS, BATTERY STORAGE (BESS), MICROGRID CONTAINERS AND MINI-GRID PILOT SOLUTIONS

5

6 • DESIGN

7 • MATERIAL SUPPLY FOR INSTALLATION AND MAINTENANCE

8 • WORKS INSTALLATION

9 • SKILLS TRANSFER TO ESKOM INTERNAL STAFF

10 SETTING OUT

The Contractor is to familiarise himself with the site conditions. The benchmark (BM) must be constructed or indicated by the Clerk of Works, which shall serve as a reference level and must be clearly marked. Before any construction work may commence the contractor must set out the corners of the internal and external fence as well as the control room from the X Y axis. The position of the main gates must line up with the access road.

11 CIVIL WORK

11.1 EXCAVATIONS

Substations are deemed as “restricted areas” and the use of plant and/or machinery for construction activities such as excavations or for the removal of rubble is not permitted without prior approval [i.e. only hand digging and jackhammers are allowed]. Excavations required for foundations, earth mat, cable trenches, road and stone kerbing etc. are included in the respective items, these are measured as supply and install complete. Only the extra-over excavation in rock is measured separately.

Any variance between the actual and measured quantities must immediately be brought to the attention of the Project Manager, in writing, failing which; all excavations shall be measured and paid as per the Bill of Quantities [BOQ].

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Foundations are to be dug as close as possible to the required size. Where the depth of the foundation is deeper than 1.5m, shoring shall be used in accordance with OHSA. The bottom of all foundations shall be level and cut squarely with the sides of the foundation. Compaction of the bottom of the foundation and backfill shall be as per **4.2**.

Excavations are specified below as per SANS 1200D:

a) Soft excavation

In the case of restricted excavation, soft excavation shall be excavation in material that can be effectively removed by a back-acting excavator of flywheel power approximately 0.10 kW per millimetre of tined-bucket width, without the use of pneumatic tools such as paving breakers.

b) Intermediate excavation

In the case of restricted excavation, intermediate excavation shall be excavation (excluding soft excavation) in material that requires a back-acting excavator of flywheel power exceeding 0.10 kW per millimetre of tined-bucket width or the use of pneumatic tools before removal by equipment equivalent to that specified in (a) above

c) Hard rock excavation

In the case of restricted excavation, hard rock excavation shall be excavation in material (excluding boulder excavation) that cannot be effectively removed without blasting or without wedging and splitting.

d) Boulder excavation Class B

Material containing 40% or less by volume of boulders of size in the range of 0.03-20m³, in a matrix of soft material or smaller boulders, and which require individual drilling and blasting in order to be loaded by a track type front-end loader or back-acting excavator.

11.2 COMPACTION

All compaction shall be compacted at OMC to a density of at least 93% of Mod. AASHTO maximum density for cohesive soil or 95% in the case of non-cohesive soil, all fill shall be compacted in layers not exceeding 150mm and each layer shall be compacted to the above density.

If the Project Engineer is not satisfied with the compaction, he will request that the contractor have a compaction test done by an approved company. If the results are successful, Eskom will be liable for all costs. Should the results fail, the contractor will be liable for all costs and the costs of any re-test required.

11.3 CONCRETE

All equipment foundations and bases shall have a minimum strength of 25MPa on day 14 with a nominal stone aggregate size of 20-25mm. Transformer foundations shall have a minimum strength of 25MPa on day 21 with a nominal stone aggregate size of 20-25mm. Blinding and strip footings shall have a minimum strength of 15MPa on day 7. Any additives to the concrete shall have the approval of the Project Engineer. All tolerances shall be for "Degree of Accuracy II" as per SANS 1200G.

Samples of all stone, sand and water to be used in the concrete shall be tested and approved prior to construction commencing. The laboratory results must be sent to Eskom for approval by the Project Engineer, if a non-approved supplier is used to supply the above material.

When concrete is mixed on site, cube tests must be made available for the Project Engineer to have tested if required. If cube tests fail, all foundations already cast will be tested at the contractors cost. The timing of the test shall be at Eskom's preferences (i.e. random). One cube of each set shall be tested at 7 days and the other at 28 days. The result shall be forwarded to the Project Engineer for approval. Concrete hardener ABE Korocron shall be applied to the concrete floor area of the oil containment area. Apply as per the suppliers specifications.

11.4 FORMWORK

The finish of all exposed surfaces of concrete shall have a smooth "off-shutter" finish and be free of all blemishes, honeycombing and irregularities.

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11.5 GEO-PIPES

Use Tee-pieces to interlinked Geo-pipes and End-caps to seal off the start. Leave the discharge ends open. Where the geo-pipes are installed on the inside of the perimeter fence, the trench dug for the earthing must not be closer than 600mm from the fence. The round copper will be installed on the outside edge, as close as possible to the fence. Backfill 100mm of soil before the geo-pipe is installed.

11.6 OPTIC FIBRE PIPE

Use Kabelflex DN110 pipe for the piping of the optic fibre. The supplier of the pipe is Nextube. Always leave draw wire in the pipes where the optic fibre will be installed.

11.7 OIL CONTAINMENT AREA DRAINAGE

Use 75mm diameter uPVC class 4 pipes for the water drainage pipe from the valve chamber of the oil containment area. Where uPVC pipes cross a road, class 6 drainage pipes are to be used. Concrete piping with an internal diameter of 300mm is to be used for active drainage system from oil containment area to oil dam. Each joint of the concrete pipe must have an approved rubber seal.

11.8 OIL CONTAINMENT AREA WALLS, JOINTS AND STEPS

Face bricks are to have a minimum of 20% water absorption. All joints constructed with 10mm thick mortar (1:4) cement: sand raked finish. Containment walls shall be capped with a roll course. Steps constructed of face bricks, built on the 100mm internally slab and externally on a 150mm concrete foundation. Step risers to be maximum 180mm and treads to be 220mm wide.

11.9 BUND DRAINAGE OUTLET PIPE (GALVANIZED)

A 400mm length of 75mm diameter galvanized pipe, with 30mm of thread on 1 end and a 150 x 150 x 3mm thick galvanized steel plate welded to it, 120mm from the non-threaded side. This plate shall be built into the bund wall. All welds to be seal welded.

11.10 GRATING & SUPPORTS

An assembly and detail drawing is included. All grating to be MENTIS RS80 Rectagrid with bearer bars 30mm x 4.5mm. Grating to be open-ended banded along discontinuous edges. All dimensions to be checked prior to manufacture. Support Steelwork to be 500x25x5mm flat galvanized iron. Welding is to conform to SANS 0167-1984. All welds to be seal welded. Steelwork to be hot dip galvanized to SANS 763 for coastal areas. All steelwork to be fabricated, erected and levelled to a tolerance of 1.5mm.

11.11 REINFORCING

All bars shall be neatly bent cold, accurately fixed and securely wired in the shape and position as shown on the drawings. The reinforcing shall be free of loose rust and grease. Unless otherwise stated on the drawings the concrete cover for all reinforcing shall be 40mm or as specified on drawings. All reinforcing overlaps shall have a lap length of 350mm.

11.12 H.D. BOLTS

All H.D. Bolts are to be fixed, using steel templates. The Clerk of Works shall inspect the position of H.D. Bolts before concrete is poured. When removing holding down bolts from a foundation, the bolts must be cut off 25mm below finished level of concrete and the holes must be finished with a 25MPA floated concrete grout. All H.D. Bolts are to be painted with one coat of silver paint.

11.13 REMOVABLE OF CONCRETE BASES

Foundations, which are to be removed, must have the resulting holes backfilled and compacted as per 11.2. Foundations, which are to be removed to 100mm below ground level, must have their H.D. Bolts cut off at concrete height. The earth tails are to be removed to 100mm below ground level. If an old foundation clashes with any of the new works the old foundation must be removed in such a way that will allow the installation of the new foundation.

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If an existing foundation is to be re-used, the existing H.D. Bolts are to be cut off 10mm below the top of the foundation. The hole left by the removed H.D. Bolt must be closed with a 25MPa floated concrete grout.

11.14 CHEMICAL ANCHORS DETAIL

66/132kV Breakers H.D. Bolts: Sika Anchorfix-1 fast curing anchoring adhesive to be used to secure bolt to foundation. The bolt to be M24 x 630mm galvanized threaded rod, cut at 45° at the one end and supplied with two nuts and two washers per bolt and to protrude 130mm above finished foundation level after installation. Installation of bolt and Sika Anchorfix-1 is to comply with the supplier's specification.

11.15 STONING

The existing stone layer must be carefully removed to ensure it remains "clean" and stockpiled separately for later re-spreading. Clerks of Works to give approval for re-use. The final yard stone layer is to be 100mm thick [min] using yard stone size of 26/38mm. Stone to comply with Eskom specification (Standard for HV Stones in Eskom Substation), Unique Identifier: 240-108982466. Project Engineer has to give approval before the yard stone is to be spread. The road stone layer is to be 25mm thick [min] using a road stone size of 9mm.

No vehicles are permitted to drive on the yard stone once the stone has been spread and levelled. Stoning must be the last activity to be done in a construction phase.

11.16 GROUTING

Grout must be square with the footing and must be free from honeycombing. Concrete to be 15Mpa (13mm stone). No grouting to be done on the footing of tubular support structures.

11.17 SEALANT

Sika flex-pro 2HP joint sealant must be used in accordance to supplier's specification, for the sealing of the oil containment area.

11.18 OIL ABSORBING CUSHIONS

"Drizit cushions" may be purchased from "Cape Chemical Industries" or from approved suppliers. Two cushions must be installed per valve chamber.

11.19 WEED KILLER (HERBICIDE)

Prior to spraying of weed killer, the yard is to be cleared of scrub. For pricing purposes, the spraying of weed killer includes the clearing of scrub.

The type of weed killer to be used is Edge SC and red dye. Spray weed killer according to manufacturer's specification.

11.20 BERM

Compaction of the Berm shall be as per 4.2. The size of Berm is indicated on drawings.

11.21 PREFORMED CONCRETE KERBING BLOCKS

Stone kerbing is to be bedded in a 75mm thick concrete bed and a 75mm thick side layer. Road and cable trench kerbing is to be bedded in a 100mm thick concrete bed and a 100mm thick side layer.

11.22 RETAINING WALLS

Terra Force blocks are to be used to construct retaining walls. The blocks are to be installed according to the manufacturer's specifications. Terra Force must be priced with main offer and a similar product can be offered as an alternative with the tender document. Before the installation of Terra Force Wall a design must be submitted to the Project Engineer which has been approved by a Civil Engineer.

11.23 PAVING BLOCKS

Use 80mm thick type S-B geometrical interlocking grey paving blocks from 35MPa concrete. Install the paving blocks according to the manufacturer's specifications. A certificate stating supplier may be required.

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12 STEELWORK ASSEMBLE AND ERECTION

Structure shall be erected, aligned, squared, plumbed and levelled to an accuracy specified in SANS 1200 H (6.2.2.C) 2 – II

All steelwork assembled according to Eskom supplied drawings. No damage to the galvanising will be accepted.

12.1 ERECTION OF EQUIPMENT AND STEEL

Equipment and steel shall be erected according to manufacturer's specification and substation drawings. Tubular busbar post insulators may be shimmed for alignment using stainless steel shims as per drawing D-EC-2112 Rev 0. Isolators and breakers final settings must be checked by Eskom before commissioning.

12.2 RE-USE OF EQUIPMENT SUPPORTS, COLUMNS, BEAMS AND EARTHPEAKS

When steelwork is re-used all the nuts and bolts must be replaced with new nuts and bolts of the same type and size.

NB: (The nuts and bolts must be hot spun galvanized).

12.3 BUNDLING NOTES

Decommissioned steelwork bundles must be tied with 3mm thick galvanized wire at 500mm spacing to form manageable bundles. Use 3mm thick aluminium labels to label each bundle. Each bundle must be labelled to identify the type of structure it belongs to and numbered to ensure that all the individual bundles can be placed together to form that specific structure. The punched letters on the labels must be 1mm deep, 4mm high and 3mm wide and maintain 2mm spacing between words.

12.4 BOLTS

All bolts supplied are to be set screws hot spun galvanized stainless steel or otherwise instructed. Rawl bolts and hook bolts shall be galvanized. All bolts to have 2 washers and 1 nut. No damage to galvanizing will be accepted. HD bolts have to be painted with silver paint after the bolts have been torqued.

12.5 DOG BOX BREAKER SUPPORTS

For dog box breakers M10 x 35mm long stainless steel set screws (with one nut and 2 washers per set screw) are to be supplied for the fixing of the support lacings and for fixing the breaker to the support. 32 set screws will be required per support and breaker installation.

12.6 BREAKERS AND LINE TERMINATIONS

The drilling of the SPC clamps used for line terminations and breakers is to line up with the line flag and the breaker connection plate. A M12 x 65mm stainless steel bolt is to be used for the breaker application. A M16 x 50mm galvanized bolt is to be used for the line termination connection.

12.7 PANEL BOLTS

When protection panels are secured to channels in the floor, bolts and "spring nuts" shall be used.

13 EARTHING

All earth tails installed and connected as per detail on the drawings. The earth tails are to be installed at a min. depth of 500mm. For standard earthing specification, see drawing D-DT-5240. The specification mentions crimping of earthing, no crimping is allowed. All joints to be silbrallo alloy brazed and painted with bitumen paint. All earthing connections must be tinned. All tinned copper must be treated as described prior to making a connection. Wash and brush tinned area with water. Apply thin layer of non-oxide grease only to tinned areas facing galvanized steelwork. Where connection is made to galvanized steelwork the surface shall be coated with non-oxide grease prior to bolting. Working standards must be adhered to when earthing equipment that is in service.

All column earthing must have an 18mm dia. hole drilled in the centre of the column HD bolt plates. The columns are to be earthed to the main earth mat using 50 x 3mm flat copper to the 16mm dia. holes. 50 x

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3mm flat copper is to be used to interlink the HD bolt plates inside the foundation. See the earth mat layout drawing for the direction of the earth tails.

For the earthing of transformer surge arrestors, one 50 x 3mm flat copper earth tail is connected to the earthing square on top of the transformer plinth and run up the transformer connecting to the surge arrestor bracket. In cases where individual surge arrestor brackets were used, the earthing of these brackets is to be interlinked and connected to the earthing square on top of the transformer plinth. If no earthing point is available on the transformer, earthing points are to be indicated by the Project Engineer.

When earthing the neutral bushing of the transformer the section of earthing between the neutral bushing and the current transformer is to be insulated. If the current transformer is of the coil type, the insulated copper is to extend 100mm beyond the current transformer. Heat shrink is to be used for the insulation.

The main earth mat runs on the inside and the outside of the perimeter fence. Bring the earth tail up to the fence post from the main earth mat on the outside of the perimeter fence and secure it to the fence post by using the earthing hole on the post. The fence post must also be connected to the main earth mat on the inside of the perimeter fence, but not by utilizing the earthing hole on the post. The earthing tail from the main earth mat on the inside of the perimeter fence must be brazed to the earthing tail running to the fence post from the main earth mat outside the perimeter fence. Braze it at a point below ground level that would utilize the least amount of flat copper. Create a t-joint when the brazing is done.

13.1 FLEXIBLE LEADS

300mm x 150A flexible copper leads with 16mm, 12mm lugs and gate clamps are to be used for gates. All lugs to have heat shrink covering of 50-70mm. Gate clamp: D-EC-1960. (Gate clamp must only be used if there is no earthing point on the gate).

A 300mm x 150A (16mm) flexible copper lead with M16 and M10 lugs is to be used to connect the steel structure (or isolator handle) and junction box earthing stud respectively. The lugs non-conductive area is to be covered with a heat shrink sleeve.

13.2 CT & VT EARTHING

CT - 300mm x 300A flexible copper leads (welding cable) with 16mm and 12mm lugs are to be used for breakers and current transformers. All lugs to have heat shrink covering of 50 - 70mm.

VT – Flat copper 50 x 3mm is to be used to earth VT from earthing stud to main earth mat.

14 BUSBARS AND STRINGERS

14.1 DROPPERS AND STRINGERS

All droppers and stringers must be installed according to the drawings. The natural curve of the conductor must be used at all times. No excessive stress shall be permitted on the equipment. Substation phasing is to be done as per station electric diagram. Post Insulators are to be aligned by using stainless steel shims.

14.2 TUBULAR BUSBARS

Centipede conductor shall be laid in each of the tubes. The conductor must be $\frac{2}{3}$ the length of the tube it is laid in. The end of the conductor must be secured to a tube conductor end cap. If any tube needs to be cut it may only be cut with a pipe cutter. Burrs inside the pipe must be cleaned out after the tube has been cut to allow for the installation of the end cap.

14.3 CLAMPS AND LUGS (FOR CONDUCTOR)

All clamps and acrylic covers are to be purchased from ELB McWade Electrical or approved suppliers. The clamps must be in accordance with the Eskom specifications.

Clamps and lugs crimped as per manufacturer's specification. Conductors must be clean, then greased with non-oxide grease prior to installation of clamps. Bolted clamps are to be torqued as specified on section drawings. All lugs to have heat shrink covering of 70mm.

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All 11/22kV transformer connections must be taped (only when acrylic covers are not used), including the 22/11kV transformer surge arrestor connections.

First BICC compound is to be used to fill all the cavities of the clamp and to be formed before the tape is applied. Apply 2 layers of 3M 23 electrical tape and 2 layers of 3M Super 33+ tape to the clamp.

14.4 LABELS

For equipment & busbar labels, 2 x M10 x 35mm long stainless steel set screws with one nut and 2 washers per set screw are to be supplied for the installation.

15 FENCING AND GATES

15.1 PALISADE FENCING

All fencing shall be done as per the Standard Eskom Drawings D-DT-5237 sheets 1 & 2 and the fencing layout drawing. The Clerk of Works to give benchmark level when there is a difference in level of the fence. The panels to be used are to be calculated using the fencing layout drawing. The distance of closing panels (i.e. the last panel on each side) are to be measured once all other posts are in position and this measurement is to be used to manufacture the closing panel. Clerk of Works is to approve the proposal before the panels are manufactured. The fencing drawings are not to be modified in any way, unless approval is given by the Project Engineer. The pales to be used must be the "classic palisade" D section with countersunk bolts and shear nuts.

15.2 TEMPORARY FENCE

Note that while fencing work is being carried out, at no point is the substation perimeter to be left open and unattended. A temporary fence must be installed as per the following details:

Install a 2,4m high fence using wooden posts to which 1.8m diamond mesh with a mesh size of 50mm x 50mm must be secured. 3 x strands of draw wire must be installed to secure the mesh to the posts and an additional 3 strands of barbed wire evenly spaced must be installed above the mesh. Top strand of barbed wire must be 50mm from top of posts. The fencing post spacing shall not exceed 4m intervals.

The fence must be connected to the main earth mat as detailed in the Earthing Standard D-DT-5240. Install the applicable danger labels on the fence.

The mesh must be earthed using 10mm round copper laced into mesh from top to bottom at 4 positions by means of binding wire. An earth must be installed at each end of the fence and at 20m intervals. All gates shall be earthed using flexible earth leads as per standard.

15.3 BRACKETS

Palisade fencing: the signs are to be installed using label brackets as indicated on D-EC-1949.

Mesh Fencing: the signs are to be installed using "A Grade Galvanized Binding Wire" on the corners of the labels or as needed to ensure that the label is well secured to the mesh.

15.4 2.4M STEEL POST MESH FENCE

The mesh, draw wire and flat rap used on the fence must be of a Grade-A galvanizing.

15.5 LABELS AND SIGNS

Install the following signs per gate (gate with two panels is classified as one gate), sign ABC, sign DE, sign F and sign G. Install sign ABC on the first fence panel next to the gate and on the first panel at each corner face of the fence panel and then at intervals not exceeding 20m along the fence. Labels are to be installed in the middle of a fence panel. The word sum used in the BOQ is inclusive of all fencing labels.

15.6 BRASS PRONGS

A nut is to be removed from the bushing of the equipment identified in the scope of works, which needs prongs. The inner thread of the nut is to be used to determine the inner thread of the brass prongs. Prongs are to be tinned.

HV transformers: the prongs are to be 26mm diameter x 110mm long. The internal thread of the prongs is to be 75mm in length.

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MV transformers: the prongs are to be 38mm diameter x 110mm long. The internal thread of the prongs is to be 75mm in length.

Prongs for non-standard isolators are to be 26mm diameter, 200mm in length of which 90mm to be turned down to 18mm diameter with a 45° chamfer. No tapping is required for this prong.

15.7 YARD LIGHTS

Yard lights are to be installed in the direction as indicated on the layout drawings.

Product: Zumtobel PRL 250 HPS/Wide beam (48000 Lumen 400W option).

15.8 SHARK NETTING

Shark netting is to be in accordance to the specification contained on D-DT-6103.

15.9 SWITCHGEAR RACK-OUT PLATE

After the switchgear has been installed, skid plates must be fitted to the floor. The plates shall be 3mm thick x 1225mm wide stainless steel plates with 8 x 50mm CSK stainless steel screw at 500mm centres. Plates must be taken up to face of wall opposite the indoor breakers.

15.10 INDOOR SWITCHGEAR – EARTHING PANEL COVER

1. A canvas or PVC cover must be made to protect the earthing panel from the ingress of dust etc. while not in use. The inside dimensions of the cover must be 1310mm x 810mm x 1300mm high.

15.11 LABELS

Labels to be supplied are to be obtained from an Eskom approved supplier. The labels supplied are to comply with the Manufacturing specification for Distribution equipment labels and D-DT-5047 sheet 2 Rev.3. The label schedule defines equipment labels required. The rate for Isolator labels shall include the non-standard padlock and a key tag. The key tag shall be 100 x 25mm and shall include both the “label designation” and “label description”. The station electric drawing must be forwarded to an approved label manufacturer who will design the mimic panel and key panel backing.

15.12 FIRE EXTINGUISHERS

Two extinguishers are to be installed in the control room. One to be in the entrance hall opposite to the control room door mounted on the wall in a glass fibre box with the standard labelling. The second to be mounted in the control room to the left or right of the entrance on a bracket with the standard labelling (no glass fibre box needed). Both extinguishers will be 9kg DCP.

15.13 NON STANDARD PADLOCK

A non-standard padlock is required for all isolators installed as part of the project and shall be 50mm brass with either an 8mm brass or stainless steel shank complete with 3 keys.

15.14 SUBSTATION EARTHS/LINK STICK

2. The link stick consists of the following sections;
 - IDUBE CES20.6 - Control Earth Substation 95mm² 6m Red Jumpers with Screw-on Clamp on one end and Earth Clamp Substation on the other side.
 - IDUBE CES20.4 - Control Earth Substation 95mm² 4m Red Jumpers with Screw-on Clamp on one end and Earth Clamp Substation on the other side.
 - S9D Operating Head.
 - Chance Round Telescopic Link Stick 20ft” Orange.

2. HIGH VOLTAGE CABLE

15.15 LAYING OF HV CABLE

HV Cable must be laid in accordance to the supplier's specification. Danger tape must be installed above cable if laid directly in the ground. If a cable is laid in a purposely built trench only the bottom two layers of bedding material, as per D-DT-0854 sheet 4, will be required.

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Cable route markers engraved with the cable size, number and the direction of the cable shall be installed as per standard specification (see D-DT-8012).

When specified, concrete cable slabs indicated on D-EC- 5254 sheet 1C are to be installed directly next to each other.

15.16 TERMINATION OF HIGH VOLTAGE CABLE

Cable terminations shall be in accordance with the requirements of 240-56030625 (DSP_34-162) and shall be installed according to the manufacturer's installation instructions.

15.17 CABLE LUGS

Cable lugs are to be soldered and not crimped.

15.18 STUD PALM CLAMPS

Stud palm clamps to be drilled for 16mm clearance and all drilling burrs to be removed.

15.19 CLEATS

Cleats are to be supplied to specification D-DT-8019 sheet 1 & 2.

15.20 DANGER TAPE

300mm wide danger tape for High Voltage cables shall be used. The danger tape will be laid in accordance to drawing D-DT-0854 sheet 1.

15.21 INSULATION RESISTANCE TEST

High Voltage cables to be insulation resistance tested before and after the ends have been made off.

15.22 EARTHING OF CABLE

Earthing of High Voltage cable will be done according to the Station Electric Diagram.

15.23 CAPPING OF CABLES

Cable that is not immediately jointed or terminated shall be sealed by means of a plumbed PVC cap overnight. Cables must be capped in accordance with manufacturer's specifications immediately after cutting to prevent the ingress of moisture. The ends of the cables shall be raised and tied as high as possible above the floor without exceeding the minimum bending radius.

3. LOW VOLTAGE CONTROL CABLE

15.24 LAYING OF LV CONTROL CABLE

LV Control Cable must be laid in accordance to the supplier's specification. Cables will be laid perpendicular or parallel to the existing trenches.

Cables will enter the trench perpendicular to the stone level and will run vertically neatly loomed to the gland plate. Before reaching the gland plate the cables will be separated to allow entry through the respective gland holes. Looming shall be achieved using metal strapping with a protective sheath to prevent cable damage.

15.25 GLANDS

Glands to be supplied are to be obtained from an Eskom approved supplier. Glands are to be installed as per supplier's specification and are to be secured adequately to the gland plate. Glands are to be covered using a shroud.

15.26 LOOMING OF CONTROL CABLE CORES

Cores are to be loomed parallel and perpendicular to the direction of the terminal blocks. Cores are to remain straight during looming. Cores are to be looped out of the loom at the appropriate terminal to be connected.

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Said loop must allow for an appropriate amount of slack to prevent tension on the connection when completed. The loop shall make a minimum of one half revolution (preferred one revolution) of the loom before reaching the terminal location.

Note: Where trunking is available cores shall be loomed in the trunking and exit via the gaps provided. No looping out of the loom is required.

15.27 CONTROL CABLE CORE LUGS

Lugs to be supplied are to be obtained from an Eskom approved supplier.

Spade lugs are to be used as default however should the terminal be incompatible an alternative lug may be used. All lugs shall be fully inserted into the terminal. Should the lug be longer than the terminal, the lug must be cut to length to allow the full length of the conductive section of the lug to be within the terminal.

A maximum of two cores (lugs) are to be inserted per terminal. Should two cores be required in a single terminal the lugs must be placed back to back to ensure the conductive sections of both lugs are flush.

Lugs will be colour coded as follows:

Red - 1.5mm cores

Blue - 2.5mm cores

Yellow - 4.5mm cores

15.28 EARTHING OF CABLE

Spare cores are to be earthed in the JB using an earthing bolt.

15.29 INSULATION RESISTANCE TEST

Control cables are to be insulation resistance tested after the ends have been made off.

15.30 CONTINUITY TEST

Control cables are to be continuity tested prior to labelling and post lugging to ensure core conductor continuity and correct core labelling.

4. CONTROL BUILDING

15.31 GATES AND RAILS

Security gates must sit parallel when closed and under no tension. The securing of the hand rails is to be done using foundation bolts (HD bolts) and a plate or a chemical anchor.

15.32 WALLS

An experienced brick layer is to be used to ensure quality and ensure that the 10mm cavity wall is to remain clear.

15.33 TRENCHING

The cable duct trench to enter the control room must be aligned on site. The control room drawing is a guide only.

15.34 EARTHING

50x3mm flat copper earth strapping must be placed in the cavity wall during construction to allow for the earthing of the control room roof and antenna respectively.

15.35 KEY PANEL

A lockable wooden framed key panel is required which shall have a station electric layout similar to mimic panel mounted on the 10mm wooden backboard. The key panel shall be 75mm deep and will be complete with a 4mm glass door panel. The equipment detailed on the station electric will determine the physical size of the key panel. A brass cup hook must be fitted at each isolator position from which the non-standard keys will be hung.

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15.36 MIMIC PANEL

The mimic panel is to be A1 Falcon frame with chromadek backing or equal approved product. The mimic panel shall include 12mm diameter magnetic buttons [1 of each colour per isolator] "Green" for open, "Red" for closed and "Black" for earthed.

15.37 AIR CONDITIONING UNIT

The air conditioner must be a wall mount 20 - 36 000 BTU split unit. The unit must be able to heat and cool. In case of a power failure the unit must restart when the power is restored. It must have a remote control that is hard wired to the unit. Allow for an external input to switch the unit on. The air conditioning condenser is to be 2500mm above ground level; the final position of said unit is to be determined on site.

15.38 WATERWORKS

The septic tank drainage pipe is moveable, the drawing is a guide. The position is dependent on soil conditions affecting drainage. An exterior water tank tap is to be added to the water tank.

15.39 PAVING

The paving around the control building is to have a fall away from the control building.

15.40 BATTERY ROOM

The battery room floor is to be dropped and tiled with non-slip tiles. All grouting in the battery room is to be acid resistant.

5. PRICING SPECIFICATION

15.41 TRENCHING

For pricing purposes, a trench of 1000mm x 400mm has been assumed. Compaction shall be as per 11.2 for sub-grade requirements.

15.42 KERBING AND FENCING

The rate for the installation of kerbing and fencing must include all the excavations required.

15.43 PAVING

The price for paving must include all preparation work as well as all material needed.

15.44 FOUNDATIONS

When the installation of a foundation is priced, include the following as part of the price:

- (a) Excavation volume as per the foundation drawing – allowance should be made for over break
- (b) Concrete volume as per the foundation drawing
- (c) Shuttering required as per the foundation drawing
- (d) Holding down bolts and the installation of it with a template
- (e) Connection of the flat copper to the holding down bolts, as well as the trenching required to the main earth mat and the connection at that point.

15.45 PROTECTION CABLES & PANELS

When pricing the installation of protection LV cables, include the removal and the re-installation of all trench covers on route.

The excavation, back fill and compaction of the sections of cable between the trench and the equipment is measured separately and is classified as soft and pick able.

Where new panels are installed a 50 x 50 x 5 angle iron the length of the panel must be bolted to the back of the panel to support the chequer plate covers over the cable trenches. The paint finish will be a layer of undercoat [red oxide], and the final layer must be battleship grey.

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15.46 REMOVAL OF EXCESS SOIL

Excess soil which results from any activity requiring excavation is to be removed from the substation site and disposed of within Eskom's boundary which will not exceed 100m from the substation. The excess material is to be flattened as per the existing area contours. The cost for the removal of the soil is to be included in the relevant activity requiring excavation.

15.47 EQUIPMENT

For all equipment that is supplied by Eskom Distribution, the contractor must supply the bolts, washers, bevelled washers and nuts of the correct size to secure the equipment to the steelwork.

15.48 EQUIPMENT LABELS

The rate shall include the bolts required to connect the label to the equipment steelwork.

15.49 SPC, STP, KCP, P AND POST INSULATOR MOUNTED TUBULAR BUSBAR CLAMPS

Supply the bolts, nuts and washers required when the above mentioned clamps are installed.

15.50 DISPOSAL OF WASTE

Waste shall include spoil materials, decommissioned concrete, equipment packaging (Primary and Secondary), cable armouring and PVC sheathing from protection cables, etc. Rate to include provision of separate waste bins for PVC, Aluminium, Copper and general waste.

6. GENERAL

All quantities in the bill of quantities are provisional. Quantities must be verified on site with the Project Manager before invoices are submitted. The contractor must familiarize himself/herself with the scope of works, drawings and the Bill of Quantities [BOQ]. Material supplied by contractor to be checked and approved by Clerk of Works prior to installation/erection. Rubble is to be disposed of at the nearest municipal dump site.

15.51 Interpretation and terminology

1.3.1 Abbreviations

The following abbreviations are used in the Works Information:













Abbreviation	Description
ECOU	Eastern Cape Operating Unit
TBA	To be announced
PM	Project Manager
QS	Quantity Surveyor
BBBEE	Broad Based Black Economic Empowerment
PPPFA	Procurement Preferential Policy Framework Act

1.3.2 Acceptance of Eskom SHEQ Policies and Procedures












The attached documents form part of this legal binding contract, the *Contractor* confirms that he has familiarized himself with all the embedded documents from 1 to 25 as indicated

No	UNIQUE IDENTIFIER	REVISION	DOCUMENT TITLE
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1	32 - 727	0	SAFETY, HEALTH, ENVIRONMENT AND QUALITY (SHEQ) POLICY 32-727  32-727 Feb 2014.pdf
2	32 - 136	0	CONSTRUCTION SAFETY HEALTH AND ENVIRONMENTAL MANAGEMENT  2_Construction Safety Health and En
3	32-524	0	DEVELOPING A SAFETY, HEALTH AND ENVIRONMENTAL SPECIFICATION  3_Developing a Safety, Health and En
4	34 - 333	1	HEALTH AND SAFETY REQUIREMENTS TO BE MET BY PRINCIPAL CONTRACTORS EMPLOYED BY ESKOM DISTRIBUTION 34-333  4_Health and Safety Requirements to be n
5	ESKOM LIFE SAVING RULES	1	ESKOM LIFE SAVING RULES 240-62196227  Eskom life-saving rules.pdf
6	CONSTRUCTION REG 3		NOTIFICATION OF CONSTRUCTION WORK TO DEPARTMENT OF LABOUR  6_Notification of Construction Work to
7	CONSTRUCTION REG 4 & 5		APPOINTMENT LETTERS FOR CLIENT REPRESENTATIVE, PRINCIPAL CONTRACTOR & CONTRACTOR  7_Appointment letters for Client repr
8 & 9	OHS ACT	1	WRITTEN AGREEMENT ON OHS ACT SECTION 37(2) & STANDARD CLAUSE  37 2 Jan 2014.doc
10, 11 & 12	34 - 1063	0	EXPANDED PUBLIC WORKS REPORT 34-1063.    10_34-1063 EPWP Works Instruction.pdf 11_EPWP Guidelines Second edition 2005. Eskom EPWP report template rev 7.xlsx
13	<u>DST 34-961</u>	0	LEGAL APPOINTMENTS AND AUTHORIZATIONS  13_Legal Appointments and Au
14	TPC 41-55		TRANSPORTING PERSONS ON BACK OF VEHICLES

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			 14_ Transporting of Passengers on the ba
15	LTIR	MASTER	LOST TIME INJURY REPORT  LTIR Master.xls
16	1. Contractor Performance Evaluation	MASTER	 Single Evaluator Template for Contrac
17	2. Supplier Contract Quality Requirements	MASTER	 QM-58 Supplier Contract Quality Req
18	3. Hard Hat Specifications OHS 01/12/	MASTER	 OHS 01 12 Hard Hat Specifications.pdf
19	4. Identifying, Analysing, Documenting and Observing Tasks according to Criticality.	REV 1	 DPC_34-380.pdf
20	5. Health & Safety Representatives inspection reports and guidelines	REV 1	 DPC_34-228Health_Safety_Rep.pdf
21	6. Work at Heights Procedure	REV 1	 32-418 Work at Height Procedure.pdf
22	7. SHE Requirements for the Eskom Commercial Process	REV 1	 32-726 SHE Requirements for the
23	8. Vehicle Safety	REV 0	 Vehicle Safety 32 345.pdf
24	9. 32-95 Environmental Occupational Health and Safety Incident Management Procedure	REV 5	 32-95 Environmental Occupational Health :
25	10.Risk Audit System Template	REV 0	 Audit Input Form Contractor RM 29 Sep

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Acknowledgement by *Contractor*

I/WE, DO HEREBY ACKNOWLEDGE HAVING READ AND UNDERSTOOD THE ABOVE ANNEXED DOCUMENTS FROM 1 TO 25 IN SECTION 1.3.2 OF THIS CONTRACT.

I/WE UNDERTAKE TO STUDY AND ABIDE BY THESE REQUIREMENTS AT ALL TIME.

SIGNED AT: ON THE DAY OF20.....

Note: Please return the above pages with the other tender returnables to the Eskom office that issued this enquiry after complying with the above.

16 Management and Start-up

16.1 Management Meetings

Regular meetings of a general nature may be convened and chaired by the *Project Manager* as follows:

Title and purpose	Approximate time & interval	Location	Attendance by:
Pre-introductory meeting	Upon request of the Project Manager at an agreed date by all parties	Site	PM, QS, Site Supervisor, Safety and Environmental Representatives and the Contractor.
Introductory meeting	After safety and environmental files have been assessed and approved.	Site	PM, QS, Site Supervisor, Safety and Environmental Representatives and the Contractor.
Toolbox talk and risk assessment	Daily before work begins.	Site	Contractor and Site Supervisor.
Risk register and compensation events CONCESSIONS	As necessary.	Site	PM, Contractor and Site Supervisor.
Overall contract progress and feedback	On a regular basis as agreed with the Project Team and the Contractor	Site	PM, QS, Contractor, Site Supervisor, and Safety and Environmental Representatives.

Meetings of a specialist nature may be convened as specified elsewhere in this Works Information or if not so specified by persons and at times and locations to suit the Parties, the nature and the progress of the works. Records of these meetings shall be submitted to the *Project Manager* by the person convening the meeting within five days of the meeting.

All meetings shall be recorded using minutes or a register prepared and circulated by the person who convened the meeting. Such minutes or register shall not be used for the purpose of confirming actions or instructions under the contract as these shall be done separately by the person identified in the *conditions of contract* to carry out such actions or instructions.

All project instructions are to be issued by the Project Manager only. Instructions given relating to quality of work to be issued by Supervisor (Clerk of works).

16.2 Documentation Control

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All correspondence is to be addressed to the *Project Manager* with a chronological numbering system.

16.3 Health and Safety Risk Management

The Contractor shall control his activities and processes in accordance with the Occupational Health & Safety Act, No. 85 of 1993 and Eskom's Construction Safety, Health and Environmental Management 32-136, Safety, Health, Environment and Quality Policy, EPC32-727 and SHE Requirements for the Eskom Commercial Process, ST32-726. The *Contractor* shall comply with the health and safety requirements contained in Section 1.3.2 of this Works Information.

The Contractors Project SHEQ File is to be updated on a continuous basis. The Contractor is to ensure that all relevant documentation and authorisations are contained in the file pertaining to the project. Upon completion of the project, the Contractor is to convert all documentation contained in the SHEQ file into electronic format and save it as a PDF File. The file name should contain the name of the Contractor and the project. The file should then be saved onto a disk or removal storage device and handed over to the Project Coordinator or Project Manager upon completion of the project.

The Contractor should adhere to the Life Saving Rules at all times.

Due to the importance to save lives' and apparatus of Eskom it is recommended that if the contractor contravene any Life Saving Rules, all work allocated to the contractor will immediately be put on hold until final outcome with investigation. Safety is the combined responsibility of the team and therefore team leader or team must adhere to life saving rules. There are five cardinal rules that may not be broken by the Team Leader and his/her team.

The five Eskom Life Saving Rules are as follows:

Rule 1:*Open, isolated, tests, earth, and bond and/or insulate before touch*

Rule 2:*Hook up at height*

Rule 3:*Buckle Up*

Rule 4*Be Sober*

Rule 5:*Ensure that you have a permit to work*

16.4 Environmental Constraints and Management

The *Contractor* shall control his activities and processes in accordance with Environmental Requirements for the Procurement of Assets, Goods and Services, TST41-120 Rev. 2. The Eskom Environmental Management Plan provides the aspects and impacts that will require management and must be followed strictly. The *Contractor* is to prepare a site/factory specific separate EMP for all environmental concerns that might arise and any changes to the approved plan shall be reported and be approved by the *Eskom Environmental Representative* and *Project Manager* prior to the commencement of work.

In addition, the *Contractor* is required to ensure that all goods, services or works supplied in terms of this *Works Information* also conform to all applicable environment legislation(s), Safety, Health, Environment and Quality Policy, EPC32-727; SHE Requirements for the Eskom Commercial Process, ST32-726; (and additional requirements). The *Contractor* shall comply with the environmental criteria and constraints stated in Section 1.3.2.

When required, the *Contractor* must ensure that all *Subcontractors'* EMP comply with legal and other requirements and also includes all the environmental risks associated with the scope of work. The *Main (Principal) Contractor* shall define the specific risks applicable to the *Subcontractor's* scope of work or supply of kiosks.

The *Contractor* is to send a flash report for any environmental incidents that have occurred on site as soon as possible or within 24 hours to the *Eskom Environmental Representative* and *Project Manager* clearly stating any impact to the environment.

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No environmental records shall be destroyed or discarded by the *Contractor*. Eskom as the *Employer* and the *Contractor* shall agree that the *Contractor* retains certain environmental records. Waste generated during the course of the project must be disposed at a registered site and the *Contractor* shall retain records of disposal.

Deviations from these requirements will be regarded as a non-conformance. Should there be concerns regarding environmental performance and non-conformance to environmental requirements, management engagements and interventions will be introduced to determine a means to addressing the shortfalls. Once these interventions have been explored and exhausted, then the *Eskom Supplier Disciplinary Process* will be followed.

The cost to the Contractor to obtain permits should it become necessary to cut a protected tree, ensure that waste is disposed of on a permitted, legal waste site and all relevant costs payable to dumping site as well as safe storage of all equipment which will be removed and replaced from site which will be transported upon instruction to the nearest designated disposal site within the Eastern Cape Operating Unit.

16.5 Quality Assurance Requirements

Quality Assessment Criteria, Forms A and Form B of the QM-58 specification will be selected and completed by Eskom Representative who will identify the applicable *Contractor* quality requirements to be met. Form A and Form B of the QM-58 specification shall be signed by the *Contractor* responding to an Eskom Enquiry.

16.5.1 *Contractor and Subcontractor* Quality Management System Requirements

- The *Contractor* and *Subcontractor* shall have formal Quality Management System in place in accordance with the requirements of the QM-58 specification.
- Such formal system shall consist of the appropriate documentations such as work procedures, work instructions, method statements, work flow documentation etc. as the case may be. This requirement constitutes the most basic Quality Management System requirements.
- Unless specifically excluded in the Quality Assessment Criteria, as per the Level of Quality Requirements (Level 1, 2, 3 or 4). The *Contractor* shall have a fully documented, implemented and maintained Quality Management System that complies with ISO-9001 standard. In the event that the *Contractor* invariably requires the assistance of some *Subcontractor* in order to realise its own supply obligations. The aforementioned requirement applies equally in all cases where any such *Subcontractor's* scope of responsibility includes the provision of any of the following activities viz. Design & Development, Manufacturing, Testing, Storage, Delivery, Installation, Commissioning, and Project Management.
- Unless specifically excluded in Quality Assessment Criteria, such Quality Management System shall carry valid ISO-9001 certification from an accredited certification body, as indicated in the applicable Eskom invitation (This requirement applies equally to both the *Contractor* and any/all manufacturing third party organizations mentioned above).
- Eskom reserves the right to request and perform necessary assessments at *Subcontractor* facilities.
- The *Contractor* shall be responsible for defining the specific quality control elements applicable to the respective *Subcontractor's* scope of work/supply, and ensure that their *Subcontractor(s)* quality programmes support Eskom requirements.
- The *Contractor* shall inform Eskom of any proposed changes to the Quality Management System or staff that will affect the Quality System prior to implementation of these changes.

2.5.2 Quality Plan

The information in this section constitutes the minimum requirements for a Quality Plan:

- All individual products and processes shall have a documented, implemented and maintained Contract Quality Plan and/or Quality Control Plan (Inspection and Test Plan).
- All production and/or service provision shall be carried out in accordance with documented Contract Quality Plan (CQP) and/ or Quality Control Plan (QCP)/ Inspection and Test Plan (ITP).

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- The *Contractor* shall plan for the required Quality related activities and interfaces within the *Contractor's* Quality system, in order to demonstrate its ability towards both controlling and meeting specified Eskom requirements

16.5.3 Contract Quality Plan

Contractor shall require *Subcontractors* to submit Contract Quality Plan (CQP) and associated documentation in accordance with requirements of Project Quality Management System processes applicable to *Subcontractor* Scope of Work.

Contractor shall, where applicable based on Scope of Work Criticality, ensure Procurement documents clearly and unambiguously require *Subcontractor* submission of a *Subcontractor* CQP for *Contractor* and Eskom review.

Contractor and *Subcontractor* CQP shall comply with Eskom "Quality Requirements Specifications" and shall be submitted prior to the initial Scope of Work Kick-off or initial Pre-fabrication meeting and prior to commencement of manufacturing, whichever is earlier.

16.5.4 Quality Control Plan

Contractor shall develop and implement processes and procedures which efficiently and effectively monitor, verify and document Quality of Scope of Work deliverables. *Contractor* shall ensure that *Subcontractor* QCP/ITP's are prepared at a level of detail sufficient to address all Quality Control related activities in chronological order, from contract review through materials verification, manufacturing, fabrication, assembly, final testing, documentation, and certification.

Where activities subject to Inspection and Test procedures are to be undertaken by a *Subcontractor*, the QCP/ITP shall make reference to this fact and shall include descriptive details of *Subcontractors* involvement. A separate QCP/ITP shall be required for each *Subcontractor* Scope of Work.

Contractor may authorise use of *Subcontractor* QCP/ITP format providing it is in compliance with the above. *Contractor* shall be ultimately responsible for the development and proper implementation of all *Subcontractor* QCP/ITPs, including those reviewed or developed by *Subcontractors*.

Eskom reserves the right to select witness and hold points within all developed *Subcontractor* QCP/ITPs for Eskom oversight of selected functions and to perform surveillance or audits of the Work.

Contractor shall establish processes and procedures for formal assessment of *Subcontractor* inspection and testing programs. These shall include review of *Subcontractor* inspection reports and other Quality Control documentation. Additional formal assessment of manufacturing, fabrication and assembly facility operations shall be conducted by *Contractor* to ensure continuing suitability, adequacy and effectiveness of the *Subcontractor* inspection and testing programs. Assessment frequency shall be established in consideration of *Subcontractor* Scope of Work, Criticality of Scope of Work deliverables and performance information. Assessment scope and schedule shall be developed in consultation with Eskom.

Mandatory pre-inspection meetings will be convened by Eskom or its Inspection Agency or AIA to be attended by the *Contractor* and *Subcontractors* representatives, including their Quality representatives who will be involved with the Works and records to be kept.

Eskom reserves the right to appoint resident quality inspectors that can be based at the *Contractor* or *Subcontractor's* premises and on site where the work is being performed. The *Contractor* is expected to provide work space at no cost to Eskom, for the inspector as required.

16.6 Programming constraints

A comprehensive and fully detailed programme is to be submitted within the seven (7) days after the introductory meeting and should indicate all milestones and critical dates. This programme must first be

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approved by the *Project Manager* and must be updated on an as and when required basis by the *Project Manager*.

The following dates shall be clearly reflected on the programme:

- Starting and completion dates for all activities as well as relevant key dates for hold or witness points. All relevant significant activities shall be shown in order to monitor the progress of the project.
- The programme shall also reflect a 2-week period for inspection and correcting of Defects before the completion date.

Updated programmes must be available at all meetings reflecting progress to date and the date when delivery will take place through the use of task orders.

FORMAT OF THE PROGRAM

- The *Contractor* shall submit his construction program in terms of the conditions of contract.
- The *Contractor* is to submit a revised programme for acceptance at each site meeting.
- This program shall be in the form of an approved Gantt Chart containing the following information:
- All construction activities, including milestones, initial tasks, critical path, required Outages, and target *Dates*. All potential risk activities should be clearly indicated on the critical path.
- Every activity on the programme will be clearly linked to labour resources and equipment required to perform the specific activity.
- Projected weekly progress on *site* for the entire duration of the contract.
- Completion and hand-over *Dates* for formal inspection by the site supervisor must be indicated.
- A column showing the daily tempo of all the construction activities must be indicated next to the activity on the programme.
- Project expenditure on a monthly basis for the entire duration of the contract.
- The following project phases and activities are minimum requirements for the programme:
- Site Establishment and Material Delivery – Lead times to be specified.
- Preparation work – Work that can be completed without the necessity of power outages
- Outage work – Work that must be completed under outage conditions
- Planned outages to be included in the programme
- *Contractors* float to be included in the programme
- The Contract Program will be on display in the *Contractors Site Offices* and will be updated weekly. In addition to the maintaining of this programme, the *Contractor* will report progress to the *Project Manager* at each site meeting or at request of the *Project Manager*.
- The *Contractor* shall also provide an organisation chart showing the personnel to be employed for the *works*, along with a detailed CV of all key personnel.
- Should any deviations to the program be found the *Contractor* shall submit a revised program to the *Project Manager* within one week of such deviations being brought to the *Contractor's* attention.
- The Outages must be arranged with *Employer* via the Outage arrangement procedures, as a prerequisite for the acceptance of the programme by the *Project Manager*.
- Acceptance of any program by the *Project Manager* shall have no contractual status other than an indication that the *Project Manager* is satisfied as to the order in which the work is to be carried out, and that the *Contractor* undertakes to perform all work in accordance with the accepted program.
- The *Project Manager* retains the right to alter the accepted program should circumstances on *site* necessitate such a change.

OTHER INFORMATION TO BE SHOWN ON THE PROGRAM.

The following Statutory non-working days are included within the contract period:

- All Public Holidays for the duration of the contract.
- The programme must clearly indicate the non-working days for the entire construction period.

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16.7 Contractor's Management, Supervision and Key People

The *Contractor* is to submit an organogram showing all key people involved in the contract 7 days after contract award. All key personnel must be appointed in writing, must be current for the specific site and area of work and must be kept on file. This would be essential if the *Contractor* is a Joint Venture.

16.8 Invoicing and payment

Within one week of receiving a payment certificate from the *Project Manager* in terms of core clause 51.1, the *Contractor* provides the *Employer* with a tax invoice showing the amount due for payment equal to that stated in the *Project Manager's* payment certificate.

The *Contractor* shall address the tax invoice to:

Eskom Holdings SOC Limited
ECOU Operating Unit
Private Bag X1
Beacon Bay
East London
5201

and include on each invoice the following information:

- Name and address of the *Contractor* and the *Project Manager*;
 - The contract number and title;
 - *Contractor's* VAT registration number;
 - The *Employer's* VAT registration number **4740101508**;
 - Description of service provided for each item invoiced based on the Price List;
 - Total amount invoiced excluding VAT, the VAT and the invoiced amount including VAT.
- Z.....

Procedures for Invoice Submission and Payment (e. g. Electronic Payment Instructions)

General Information	X
- No Pro-forma Invoice	
- Check Vendor number against the Address and name on Tax invoice	
- Insert the Vendor number on Tax invoice (Top right hand corner)	
- Bank details must be on the invoice or on a attach sheet, but it does not require a bank stamp just a letter)	
- Check banking details on invoice against SAP system. If more than one banking account check bank account against banking details on invoice. If banking details not on invoice, write the bank code next to the vendor account (bank code 0002)	
- Check Vendor VAT number against the vendor master. (FK03) If VAT number not on master records, prepare a list and forward to Vendor Management to check and update the vendor master records	
- No fax copies of Tax invoices allowed	
- No copies of Tax invoices allowed unless originally printed by the Vendor if a photocopy tax invoice, it must be an original "certified copy" (i.e. not a copy of a "certified copy" invoice) from the vendor and check in system if not previously be paid. Put stamp "not previously paid" on invoice and sign.	
- Ensure that date received stamp is clear on invoice	
- Stamp all Invoices with the Vat stamp, complete and sign (only when VAT is applicable)	
- The stamp should not be stamped over any written information	
- When scanning invoice, check the quality before linking in SAP (inboxes)	
With Reference Invoices	X

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- Goods receipt must be done (payment with reference)	
- Ensure that the SAP purchase order number is clear and correct on the invoice	
- GR number to be written on the Invoices	
- If multiple lines on invoice write the line number of the order against the line to ensure that the processors match the correct lines (to ensure that 191100 is matched correctly)	

16.9 Insurance provided by the *Employer*

As stated for "Format Dx" available from 01 April 2015 to 31 March 2016 on http://www.eskom.co.za/Tenders/InsurancePoliciesProcedures/Pages/EIMS_Policies.aspx (See Annexure B for basic guidance). Contact any of the Insurance Advisors from ESCAP.

16.10 Training workshops and technology transfer

The obligation for technology transfer being included as part of this contract on Completion of the *Works* is to train Eskom Staff and/or other *Contractors* on the use of the access control and remote monitoring system, secure kiosks installation and commissioning, as well as training on maintenance of the secure meter kiosks.

17 Engineering and the *Contractor's* design

17.1 *Employer's* design

The Employer will supply Contractor with a final design document compiled by the Project Engineer detailing the scope of work to be executed on the project as well as Project Drawings.

17.2 As-built drawings, operating manuals and maintenance schedules

The *Contractor* is required to provide the necessary drawings, operating manuals, test certificates and training program details, as well as a commitment letter for providing ongoing product support.

18 Procurement

18.1 People

18.1.1 Minimum requirements of people employed on the Site

All people employed by the *Contractor* to perform supervision of installation and commissioning should have Police Clearance before work can commence. The *Contractor's* employees shall be sober when carrying out their duties and may be subjected to random breathalyser tests.

18.1.2 BBBEE and Preferencing Scheme

Special Conditions of Contract (Application of other criteria in terms of Section 2(1)(f) of PPPFA)

The objective criteria as follow:

- Transformation of this sector by the appointment of a Black Owned Firm(s) that meet the functionality requirements;
- Development of Black Owned steel fabrication companies;
- Appointment of companies located within the Republic of South Africa.

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NB: The Joint Venture may be:

- Black Owned and Black Owned Company;
- Black Owned Company (Majority Shareholder) and Non-Black Owned Company;
- Black Women Owned Company and Black Owned Company, and;
- Black Women Owned (Majority Shareholder) and Non-Black Owned Company.

A 51% or more Black Owned Companies or Joint Venture where the lead company has 51% or more black ownership.

Procurement Preference Hierarchy**Preference for awarding this contract and/or subcontracting are in the following order:**

- Companies with more than 51% Black Ownership
- Enterprises Owned by Black People Living with Disability (BPLwD)
- Black Youth Owned Enterprises (BYO)
- Black Women-Owned Enterprises (BWO)
- Black Owned Enterprises (BO)

18.1.3 Supplier Development and Localisation

An SD&L Compliance Matrix for the development of skills and/or the promotion of localised content applicable to the scope of work shall be provided at tender stage. Regular reporting on a monthly basis must be done and handed to the project manager to report on progress of compliance to the targets agreed upon at contract stage. This report must be handed over to the Project Manager on a monthly basis when submitting the assessment claim for payment.

18.1.4 Expanded Public Work Programme (EPWP)

- The *Contractor* must report all local/temporary labourers employed in a project
- The *Contractor* MUST submit a report on a monthly basis
- The *Contractor* must NOT wait until the end of a project in order to submit reports
- The *contractor* must submit the REV 7 report together with the assessment claim for payment.
- The *contractor* is responsible for assisting ESKOM in reporting all work done.
- Eskom's report feeds back to Parliament and non-reporting of *contractors* affects this report.
- No payment will be certified without the required report being submitted.

18.1.5 Lost Time Injury Report (LTIR)

- The *Contractor* must submit this report monthly with each payment assessment claim
- No payment will be certified unless this report is submitted.

18.2 Subcontracting**18.2.1 Preferred subcontractors**

The *Contractor* to submit the names of each proposed subcontractor to the *Employer* for acceptance. The *Contractor* does not appoint a subcontractor until the *Employer* has accepted such subcontractor.

18.2.2 Subcontract documentation, and assessment of subcontract tenders

The *Contractor* to indicate the percentage of subcontracting, the proposed subcontractors together with their BBBEE statuses, and the sources of assets, goods or services when local content and production criteria are applicable. The proposed target will form part of the contractual obligation. The NEC system is compulsory for all subcontract documentation.

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18.2.3 Limitations on subcontracting

The *Contractor* is not allowed to sub-contract more than 25% of the contract to another enterprise/supplier that does not have equal or higher BBEE status, unless the intended subcontractor is an EME that has the capability and ability to execute the sub-contract, in order to claim the points for BBEE.

18.2.4 Attendance on subcontractors

The *Contractor* is responsible for performing on the provided scope of work as if he had not subcontracted. The appointed *Contractor* will also be liable to the *Subcontractors'* employees, as he legally and liable to this contract.

18.3 Plant and Materials

18.3.1 Quality

The *Contractor* shall control his activities and processes in accordance with Eskom's Quality Requirements for Procurement of Assets, Goods & Services, QM-58 and ISO-9001.

18.3.2 *Contractor's* procurement of Plant and Materials

The *Employer* requires warranties from the *Contractor* to be in favour of the *Employer* and not just to the *Contractor* during the life of the contract.

18.4 Tests and inspections before delivery

The *Contractor* is required to confirm, that for contractor supplied material, at the time of purchase, materials comply to Eskom specifications and that the relevant test certification is available for inspection and verification. The *Contractor* shall make sure that regular quality control tests are carried out to ensure that good quality of the materials is maintained.

4.5 Accessibility to Eskom Technology Standards

The contractor is to confirm that accessibility to Eskom Technical Standards Website is secured prior to commencement of the project. The accessibility to the website may be acquired by contacting the following persons.

1. Brenda Morrison
Assistant Officer
Tel: 011 629 5266
Fax: 086 662 6387
Brenda.morrison@eskom.co.za
2. Kevin Layley
Document Controller
Technology
Power Delivery Engineering
Design Base Operating Unit Support
Tel +27 11 800 6181
E-mail Kevin.Layley@eskom.co.za

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19 Construction

19.1 Completion, testing, commissioning and correction of Defects

19.1.1 Work to be done by the Completion Date

On or before the Completion Date the *Contractor* shall have done everything required to Provide the Works except for the work listed below which may be done after the Completion Date but in any case before the dates stated. The *Project Manager* cannot certify Completion until all the work except that listed below has been done and is also free of Defects which would have, in his opinion, prevented the *Employer* from using the *works* and others from doing their work.

19.1.2 Use of the *works* before Completion has been certified

The *Contractor* will have to carry out the supervision of the installations, as per the instruction of the *Project Manager*.

19.1.3 Materials facilities and samples for tests and inspections

From time to time random sample test and inspections may be requested, to ensure good quality of the materials being supplied. In accordance with EI 048 MVL (or the latest revision thereof), the appointed COW for the project will be required to undertake an inspection of materials before project commencement for compliance with Eskom's technical standards when such materials are delivered to the site storage location. The COW for the project may be aided, as needed, for the inspection from time-to-time by a representative of Eskom's Standards Implementation Department for the material inspection. The material supplied to the project shall be items that have been previously and currently Eskom assessed items. Where items have no traceable record of prior approval in existence or where compliance to Eskom's specifications are in doubt, the contractor shall be given 30 (thirty) days to provide all valid certification (including but not only) test records as specified in SANS/IEC and Eskom standards to prove that the material in question complies with Eskom's requirements. Where such material is found to be in contravention of Eskom's standards, such material will be rejected and will be for the contractor's cost to replace and/or re-work.

On completion of the first transformer zone, the contractor is required to request the COW (aided by SI Dept representative as and when needed) to conduct a detailed inspection of the network constructed. Defects identified on the first transformer zone shall be corrected and will serve as the benchmark of quality to be expected on the remainder of the project.

19.1.4 Commissioning

Commissioning is to be done before or after Completion depending on the Programme from the *Project Manager*.

19.1.5 Start-up procedures required to put the *works* into operation

In order to put the *works* into operation the *Project Manager* may require the *Contractor* to either do this for him or be in attendance whilst he does it, depending on who is the responsible person.

5.1.5.1 Traveling Cost

Camp Site Establishment - The contractor will only be re-imbursed for 1 trip per vehicle from the contractor base to the Project Site, which must be pre-approved by the relevant Programme Manager.

Camp Site De-Establishment - The contractor will only be re-imbursed for 1 trip per vehicle from the Project Site to contractor base, which must be pre-approved by the relevant Programme Manager.

Travelling on the Project Site – An allowance of **30km** per day per vehicle will be made from Project Site Camp to the place of execution, however in order to claim, this must be supported by vehicle Tracker records, verified by the Eskom Clerk of Works. Should the daily allowance of **30km** be exceeded, pre-

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approval in writing by the Programme Manager must be obtained. Travelling costs to execute the Scope of work forms part of the labour rate for each activity on the BOQ.

5.1.5.2 Material Handling

5.1.5.2.1 Material Supplied by the Contractor – A (handling fee) direct fee equal to **5%** of the material cost paid, can be claimed by the contractor.

19.1.6 Take over procedures

Take-over is after or at the same time as Completion. The *Contractor* is to arrange an inspection before completion of the installation to inspect and identify any outstanding or any defects. The *Project Manager* may require the *Contractor* to provide assistance, on an as and when required basis.

19.1.7 Access given by the *Employer* for correction of Defects

The *Project Manager* arranges access for the *Contractor* to use a part of the *works* which has been taken over if needed to correct any Defects. After the *works* have been put into operation, the *Employer* may require the *Contractor* to undertake certain procedures before such access can be granted. The *Contractor* will be responsible for ensuring that the area to be worked in is barricaded before correcting any defects.

19.1.8 Performance tests after Completion

The *Contractor* to demonstrate that the *works* can operate as guaranteed by the *Contractor* (in *Contractor's* Works Information) or specified by the *Employer* either here or elsewhere in this Works Information.

19.1.9 Training and technology transfer

The *Employer* requires the *Contractor* to provide training on the use of the access control or any associated transfer of technology from him to the *Employer*.

19.1.10 Operational maintenance after Completion

The *Employer* may require the *Contractor* before the *defects date* to perform certain duties after Completion and take over which relate to maintenance of the *works*.

20 List of drawings

20.1 Drawings issued by the *Employer*

This is the list of drawings issued by the *Employer* at or before the Contract Date and which apply to this contract.

Note: Some drawings may contain both Works Information and Site Information, a full list of drawings will be detailed in the Project Specific Agreement.

Drawing number	Revision	Title

PART 4: SITE INFORMATION

Document reference	Title	No of pages
C4	This cover page	1
	Site Information	01
Total number of pages		02

PART 4: SITE INFORMATION

Core clause 11.2(16) states

“Site Information is information which

- describes the Site and its surroundings and
- is in the documents which the Contract Data states it is in.”

In Contract Data, reference has been made to this Part 4 of the contract for the location of Site Information.

1. General description

Microgrid, hybrid & new technology solutions at sites that will be identified on an Ad hoc basis as required for the implementation in the Eastern Cape Area of the Cape Coastal Cluster.

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

Some of the existing infrastructure is indicated on substation layout drawings provided. Though it is the Contractor's responsibility, to familiarise himself with all existing infrastructure in and around the working place

3. Subsoil information

All excavations and associated soil information are described under the Works information and Bill of Quantities. Geotechnical study or report provided.

4. Hidden services

In the event of a discrepancy between physical condition and the information on a drawing, the Contractor shall notify the Project Manager immediately if the physical condition found on site is such that the deviation from the drawing requires a change in the design of the works.

PART 5: ANNEXURES

C5 Annexures

NO	REFERENCE NUMBER	R E V.	TITLE	*TYPE SPEC/PF	ATTACHED YES/NO
A1	PFMA 1 of 1999		Public Finance Management Act		No
			<u>Integrated Risk Management - Safety</u>		
A2	OHS Act. 85 of 1993		Occupational Health and Safety Act	SPEC	No
A3	COID 130 of 1993		Compensation Health and Safety Act		
A4	SCSAMAAE4	0	Safety Risk Management Process Manual	Manual	No
A5	SCSPVABM9	0	Co-Ordination of safety on capital projects	Procedure	No
A6	SCSASAAW8	4	Standards applicable for Contractors working in close proximity to live apparatus	Standard	No
A7	DPC34-333	0	OHS Act requirements to be met by principal contractors employed by Eskom Distribution	Procedure	YES Contractor Must sign
A8	SCSPVACK0	0	Identifying, analyzing, documenting and observing dangerous/hazardous tasks.	Procedure	No
A9	SCSPVACU1	1	Pres-Task Planning and Feedback process	Procedure	No
A10	SCSPVABP6	1	Procedure for refusal to work on the grounds of health, safety and environmental concerns.	Procedure	No
A11	34-350	0	Reporting, recording, investigating, costing and follow-up of incident/accidents.	Procedure	No
A12	34-332	0	First Aid Standard	Standard	No
A13	ESKPVAEY6	0	Operating Regulations for High Voltage Systems	Procedure	No
A14	34-163	1	Portfolio of evidence for Authorisation	Guide	No
A15	NWS 1494		Fire Prevention and Protection of Contractor's Premises on New Work Sites	SPEC	No
			<u>Operational</u>		
A16	ESKARAAG4	6	Operating Regulations for High Voltage Systems	Procedure	No
A17	SCSPVABN2	0	Training, Testing and Authorization of persons for the operating and maintenance of the Power System	SPEC	No
A18	SCSAMAAE5	1	The training logbooks for Authorization of persons working on high voltage systems.	SPEC	No
A19	SCSAAAR0		GUIDE FOR THE STORAGE, TRANSPORT AND HANDLING OF COMPOSITE INSULATORS	Guide	No
A20	ESKASAAU7	0	Quality Requirements for the procurement of Assets, Goods and Services.	Standard	No
A21	SCSAGAAW2	0	Building line restrictions, servitudes widths, line separations and clearances from power lines	Guide	No
A22	DISPVABY3	0	Procedure for handling Auditing and stacking of new wooden poles	Procedure	No.
A23	DISPVAB17	1	Procedure for manual handling of rural line poles.	Standard	No
A24	ESKASABG3	1	Standards for bush clearance and maintenance within overhead powerline servitudes	Standard	No
A25	SCSSCAAY5	2	Specifications for phase conductor for distribution lines (See 4.6 Conductor markings)	SPEC	No
A26	DISADABQ9		Access to farms	Guide	No.
			<u>Contractor Site Requirements</u>		
A27	STR103/2006 10 TI-012		Transporting person on back of vehicles Prohibition of transportation of employees in crew cabs mounted on the back of trucks	Technical Instr.	No
A28	Work Instruction		Expanded Public Works Report – Divisional Capital Programme & Manhour Report		No
A29			Eskom Distribution Standard including all Technical Bulletins issued till Tender Issue date	SPEC	No
A30			Electrical Clearances and Safe Working Clearances	SPEC	No
A31			Tax Declaration and Tax Clearance	SPEC	No
A32			Section 28 of the National Environmental Management Act	SPEC	No

			10 of 1998		
			Project Specific Documentation:		
A33		0	Final Design Package	FDP	Yes
A34		0	Environmental Documents: <ul style="list-style-type: none"> ENVIRONMENTAL MANAGEMENT PLAN - ENVIRONMENTAL AUTHORISATION ENVIRONMENTAL IMPACT ASSESSMENT PROCESS FINAL BASIC ASSESSMENT REPORT 	SPEC	Yes
A35		0	SHE SPECIFICATION FOR SUB TRANSMISSION PROJECTS	SPEC	Yes

Eskom Holdings Limited's Standard and Specifications are available at www.eskom.co.za and all Procurement offices.