

Part C1: Agreements & Contract Data

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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:

Ravinia Township Rebuild & Dismantling Project

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 B	The offered total of the Prices exclusive of VAT is	R
	Value Added Tax @ 15% is	R
	The offered total of the amount due inclusive of VAT is 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)

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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*.

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

**ESKOM HOLDINGS SOC LIMITED,
Megawatt Park, Maxwell Drive,
Sandton, Johannesburg**

(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.

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

Note:

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

No.	Subject	Details
1	[•]	[•]
2	[•]	[•]
3	[•]	[•]
4	[•]	[•]
5	[•]	[•]
6	[•]	[•]
7	[•]	[•]

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

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

For the tenderer:

For the Employer

Signature

.....

Name

.....

Capacity

.....

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

(Insert name and address of organisation)
**ESKOM HOLDINGS SOC LIMITED,
 Megawatt Park, Maxwell Drive,
 Sandton, Johannesburg**

Name & signature of witness

.....

Date

.....

C1.2 ECC3 Contract Data

Part one - Data provided by the *Employer*

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

Clause	Statement	Data
1	General	
	The <i>conditions of contract</i> are the core clauses and the clauses for main Option	
	dispute resolution Option and secondary Options	B: Priced contract with bill of quantities W1: Dispute resolution procedure X2 Changes in the law X7: Delay damages X16: Retention X18: Limitation of liability 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)	Nevan Rampersad
	Address	ESKOM HOLDINGS SOC LIMITED, Sunilaws Office Park, Beacon Bay EAST LONDON, 5205
	Tel	043 703 5723
	Fax	[•]
	e-mail	rampern@eskom.co.za
10.1	The <i>Supervisor</i> is: (Name)	Lulamile Dlanga
	Address	Eskom Uitenhage Complex Cape Road Industrial 15 Schonland Road Uitenhage, 6229

Tel No. **043 703 5739**
 Fax No. **[•]**
 e-mail **DlangaLW@eskom.co.za**

11.2(13)	The <i>works</i> are	Ravinia Township Rebuild & Dismantling Project	
11.2(14)	The following matters will be included in the Risk Register	Part 5 – Annexures – Risks identified part of the Risk Assessment as per the Safety Health & Environment Specification document and FDP Document.	
11.2(15)	The <i>boundaries of the site</i> are	Within the Eskom line servitude for Ravinia Township Rebuild & Dismantling Project	
11.2(16)	The Site Information is in	Part 4: Site Information	
11.2(19)	The Works Information is in	Part 3: Scope of Work and all documents and drawings to which it makes reference.	
12.2	The <i>law of the contract</i> is the law of	the Republic of South Africa	
13.1	The <i>language of this contract</i> is	English	
13.3	The <i>period for reply</i> is	1 Week	
2	The Contractor's main responsibilities	Data required by this section of the core clauses is provided by the Contractor in Part 2 and terms in italics used in this section are identified elsewhere in this Contract Data.	
3	Time		
11.2(3)	The <i>completion date</i> for the whole of the <i>works</i> is	07 July 2022	
11.2(9)	The <i>key dates</i> and the <i>conditions</i> to be met are:	Condition to be met	key date
		1 Project Starting Date	27 January 2022
		2 Site Access Date	20 January 2022
		3 Project Completion Date	07 July 2022
30.1	The <i>access dates</i> are:	Part of the Site	Date
		1 Complete Site	20 January 2022
		2 [•]	[•]
		3 [•]	[•]
31.1	The Contractor is to submit a first programme for acceptance within	2 (two) weeks of the Contract Date.	
31.2	The <i>starting date</i> is	27 January 2022	
32.2	The Contractor submits revised		

	programmes at intervals no longer than	2 (two) weeks.
35.1	The <i>Employer</i> is not willing to take over the <i>works</i> 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	Period agreed upon by <i>Project Manager</i> and <i>Contractor</i> from the <i>Starting Date</i>.
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 the date of payment.
51.4	The <i>interest rate</i> is	<p>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</p> <p>(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 <i>mutatis mutandis</i> 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.</p>
6	Compensation events	
60.1(13)	The place where weather is to be recorded is:	At the Site Camp/ Office Area
	The <i>weather measurements</i> to be recorded for each calendar month are,	<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</p>

temperature less than 0 degrees Celsius
the number of days with snow lying at 09:00 hours South African Time
and these measurements: **are recorded within a calendar month**

The *weather measurements* are supplied by

SA Weather Bureau

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

**SA Weather, Pretoria, 012-3676000
Joubertina, Eastern Cape Province**

and which are available from:

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

60.1(13)	Assumed values for the ten year return <i>weather data</i> for each <i>weather measurement</i> for each calendar month are:	As stated in Annexure A to this Contract Data provided by the <i>Employer</i>. Note: If this arrangement is used, delete the rows above for 60.1(13) and delete this note.
7	Title	There is no reference to Contract Data in this section of the core clauses and terms in italics used in this section are identified elsewhere in this Contract Data.
8	Risks and insurance	
80.1	These are additional <i>Employer's</i> risks	1. [•] 2. [•] 3. [•]
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	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).
	Address	[•]

Tel No. [•]

Fax No. [•]

e-mail [•]

W1.2(3) The *Adjudicator nominating body* is: **the Chairman of ICE-SA a joint Division of the South African Institution of Civil Engineering and the London Institution of Civil Engineers. (See www.ice-sa.org.za) or its successor body.**

W1.4(2) The *tribunal* is: **arbitration.**

W1.4(5) The *arbitration procedure* is **the latest edition of Rules for the Conduct of Arbitrations published by The Association of Arbitrators (Southern Africa) or its successor body.**

The place where arbitration is to be held is **East London, Eastern Cape, South Africa.**

The person or organisation who will choose an arbitrator

- if the Parties cannot agree a choice or
- if the arbitration procedure does not state who selects an arbitrator, is **the Chairman for the time being or his nominee of the Association of Arbitrators (Southern Africa) or its successor body.**

12 Data for secondary Option 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 *works* are **0.1% of Contract Value per day. Up to a limit not exceeding 10% of Contract Value**

X16 Retention (not used with Option F)

X16.1 The *retention free amount* is **R00.00**

The *retention percentage* is **10%**

X18 Limitation of liability

X18.1 The *Contractor's* liability to the *Employer* for indirect or consequential loss is limited to: **R0.0 (zero Rand)**

X18.2 For any one event, the *Contractor's* liability to the *Employer* for loss of or damage to the *Employer's* property is limited to: **the amount of the deductibles relevant to the event**

X18.3 The *Contractor's* liability for Defects due to his design which are not listed on the Defects Certificate is limited to **The greater of**

- **the total of the Prices at the Contract Date and**
- **the amounts excluded and unrecoverable from the *Employer's* assets policy for**

		correcting the Defect (other than the resulting physical damage which is not excluded) plus the applicable deductible as at contract date.
X18.4	The <i>Contractor's</i> total liability to the <i>Employer</i> for all matters arising under or in connection with this contract, other than excluded matters, is limited to:	the total of the Prices other than for the additional excluded matters. The <i>Contractor's</i> total liability for the additional excluded matters is not limited. The additional excluded matters are amounts for which the <i>Contractor</i> is liable under this contract for <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	(i) Seven years after the <i>defects date</i> for latent Defects and (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. 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.
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 *Contractor* 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 *Employer* 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.

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 <i>works</i> , 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 <i>works</i> , 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>Employer's property</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	The amount required by the applicable law

employees of the <i>Contractor</i> arising out of and in the course of their employment in connection with this contract	law
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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.
- 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.

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.

Year	Weather	Max	Min	Wind	Rain	Humidity	Cloud	Pressure
2009		22 °c	17 °c	14 km/h SSE	0.0 mm	77%	40%	1016 mb
2010		23 °c	17 °c	13 km/h E	0.0 mm	84%	19%	1015 mb
2011		18 °c	15 °c	15 km/h SW	10.6 mm	77%	33%	1024 mb
2012		20 °c	15 °c	24 km/h E	0.0 mm	67%	3%	1026 mb
2013		19 °c	16 °c	21 km/h SSW	43.4 mm	86%	67%	1015 mb
2014		21 °c	15 °c	23 km/h E	0.0 mm	77%	22%	1016 mb
2015		16 °c	14 °c	20 km/h SSE	49.6 mm	86%	88%	1014 mb
2016		21 °c	15 °c	14 km/h S	0.0 mm	81%	18%	1020 mb
2017		23 °c	19 °c	8 km/h S	6.8 mm	80%	16%	1014 mb
2018		17 °c	12 °c	13 km/h SW	0.1 mm	63%	5%	1022 mb
2019		22 °c	14 °c	12 km/h E	0.0 mm	65%	26%	1015 mb
2020		21 °c	14 °c	17 km/h E	0.0 mm	80%	7%	1020 mb
2021		19 °c	15 °c	20 km/h	0.9 mm	82%	66%	1008 mb

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

C1.2 Contract Data

Part two - Data provided by the *Contractor*

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:	CV's (and further key persons data including CVs) are appended to Tender Schedule entitled .

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

11.2(3)	The <i>completion date</i> for the whole of the <i>works</i> is	07 July 2022		
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			
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		
	Data for Schedules of Cost Components	<i>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).</i>		
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:	
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PART 2: PRICING DATA

ECC3 Option B

Document reference	Title	No of pages
C2.1	Pricing assumptions: Option B	[03]
C2.2	The <i>bill of quantities</i>	

C2.1 Pricing assumptions: Option B

1. How work is priced and assessed for payment

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

Identified and defined terms	11	
	11.2	(21) The Bill of Quantities is the <i>bill of quantities</i> as changed in accordance with this contract to accommodate implemented compensation events and for accepted quotations for acceleration.
		(28) The Price for Work Done to Date is the total of
		<ul style="list-style-type: none">• the quantity of the work which the <i>Contractor</i> has completed for each item in the Bill of Quantities multiplied by the rate and• a proportion of each lump sum which is the proportion of the work covered by the item which the <i>Contractor</i> has completed.
		Completed work is work without Defects which would either delay or be covered by immediately following work.
		(31) The Prices are the lump sums and the amounts obtained by multiplying the rates by the quantities for the items in the Bill of Quantities.

This confirms that Option B is a re-measurement contract and the bill comprises only items measured using quantities and rates or stated as lump sums. Value related items are not used. Time related items are items measured using rates where the rate is a unit of time.

2. Function of the Bill of Quantities

Clause 55.1 in Option B states, "Information in the Bill of Quantities 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 Bill, 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 Bill of Quantities. The Bill of Quantities is only a pricing document.

3. Guidance before pricing and measuring

Employers preparing tenders or contract documents, and tendering contractors are advised to consult the sections dealing with the bill of quantities in the NEC3 Engineering and Construction Contract Guidance Notes before preparing the *bill of quantities* or before entering rates and lump sums into the *bill*.

There is no general provision in Option B for payment for materials on Site before incorporation into the *works*. If secondary Option X14 Advanced payment has not been used then the tendering contractor may obtain the same effect by inserting appropriate items in the method related charges where the *method of measurement* allows, or alternatively making allowance in the rates of the *bill of quantities* for the financing of Plant and Materials until they are incorporated in the *works*.

When compensation events arise, the default position is that the Bill of Quantities is not used to calculate the cost effect of the event. Defined Cost and the resulting Fee is used and Defined Cost includes all components of cost which the *Contractor* is likely to incur, including so called P & G items. Rates and lump sums from the Bill of Quantities, or from any other source, may be used instead of Defined Cost and the Fee only if the *Contractor* and *Project Manager* agree. If they are unable to agree, then Defined Cost

plus Fee is used.

4. Measurement and payment

4.1. Symbols

The units of measurement described in the Bill of Quantities are metric units abbreviated as follows:

Abbreviation	Unit
%	percent
h	hour
ha	hectare
kg	kilogram
kl	kilolitre
km	kilometre
km-pass	kilometre-pass
kPa	kilopascal
kW	kilowatt
l	litre
m	metre
mm	millimetre
m ²	square metre
m ² -pass	square metre pass
m ³	cubic metre
m ³ -km	cubic metre-kilometre
MN	meganewton
MN.m	meganewton-metre
MPa	megapascal
No.	number
sum	Lump sum
t	tonne (1000kg)

4.2. General assumptions

- 4.2.1. Unless otherwise stated, items are measured net in accordance with the drawings, and no allowance has been made in the quantities for waste.
- 4.2.2. The Prices and rates stated for each item in the Bill of Quantities shall be treated as being fully inclusive of all work, risks, liabilities, obligations, overheads, profit and everything necessary as incurred or required by the *Contractor* in carrying out or providing that item.
- 4.2.3. An item against which no Price is entered will be treated as covered by other Prices or rates in the *bill of quantities*.
- 4.2.4. The quantities contained in the Bill of Quantities may not be final and do not necessarily represent the actual amount of work to be done. The quantities of work assessed and certified for payment by the *Project Manager* at each assessment date will be used for determining payments due.
- 4.2.5. The short descriptions of the items of payment given in the *bill of quantities* are only for the purposes of identifying the items. Detail regarding the extent of the work entailed under each item is provided in the Works Information.

4.3. Departures from the *method of measurement*

4.3.1.

4.4. Amplification of or assumptions about measurement items

The following is provided to assist in the interpretation of descriptions given in the *method of measurement*. In the event of any ambiguity or inconsistency between the statements in the *method of measurement* and this section, the interpretation given in this section shall be used.

4.4.1.

C2.2 the *bill of quantities*

Use this page as a summary page or as a cover page to the *bill of quantities*.

PROJECT NAME:	RAVINIA TOWNSHIP REBUILD & DISMANTLING PROJECT	START DATE:		
CONTRACTOR:		END DATE:		
CONTRACT #:				
PO NUMBER:				
SUMMARY PAGE		NUMBER OF CONNECTIONS		576
SECTION	DESCRIPTION	SUPPLY TOTAL	LABOUR TOTAL	GRAND TOTAL
A	PRELIMINARY AND GENERAL ITEMS			
B	BUSH CLEARING & TREE FELLING			
C	EXCAVATIONS			
D	PLANTING OF POLES			
E	Single Phase MV Structure (DOWNWIRE EXCL BUT BONDING INCL)			
F	ASSEMBLE MV STAYS			
G	ASSEMBLE SINGLE PHASE LV STRUCTURES			
H	ASSEMBLE LV STAYS			
I	POLE TOP BOX INSTALLATION			
J	CONDUCTOR STRINGING (TENSION, REGULATE & BIND IN)			
K	EQUIPMENT INSTALLATION			
L	EARTHING INSTALLATION			
M	SERVICE CONNECTION INSTALLATION			
N	SERVICE CONDUCTOR INSTALLATION			
O	UNDERGROUND CABLE INSTALLATION			
P	MV/LV CABLE TERMINATION			
Q	CABLE JOINT			
R	EQUIPMENT DISMANTLING			
S	LABELLING			
T	EQUIPMENT TESTING			
U	AS - BUILTS			
V	MISCELLANEOUS			
W	TRANSPORT			
TOTAL EXCLUDING 15% VAT				
15% VAT				
TOTAL INCLUDING 15% VAT				
COST PER CONNECTION				
VERIFIED BY: CLERK OF WORKS		DATE:		
COST CHECK BY: QUANTITY SURVEYOR		DATE:		
ACCEPTED BY: CONTRACTOR		DATE:		
APPROVED BY: PROGRAM MANAGER		DATE:		

PROJECT NAME:		START DATE:				
CONTRACTOR:		END DATE:				
CONTRACT #:						
PO NUMBER:						
Bill No:1	PRELIMINARY AND GENERAL ITEMS			SCOPE		
No	DESCRIPTION			UNIT	QTY	AMOUNT
A	FIXED CHARGE ITEMS					
A.1	Site Establishment:	The Contractor shall establish the site camp and maintain throughout the construction period and allow for removal of such upon completion of Works. The Eskom Representative reserves the right to negotiate the rates for rental arrangements based on the project scope and magnitude.				
A.1.1.		Office and Meeting Room complete as per P&G's Guideline			Sum	1
A.1.2.		Stores			Sum	1
A.1.3.		Sanitation			Sum	1
A.1.4.		Electricity			Sum	1
A.1.5.		Supply and Install Diamond mesh fencing at 1.8 meters high			m	300
A.1.6.		Supply and Install Diamond mesh Lockable Gate 1.8m high x 3.6m wide			each	1
A.1.7.		Project Preparation			Sum	1
A.2.	Sign Board Labour					
A.2.1		Contractor shall erect on site, maintain throughout the construction duration(Safety)			each	1
		Project sign board			each	1
A.4.	Health and Safety measures (In terms of 34-333)	Safety & Health, Environmental				
A.4.1		Compliance with OH&S Act & Construction Regulations.			Sum	1
A.7.	Materials Management					
A.7.1		The Contractor shall make allowance to receive at Eskom stores, offload and stack the free-issue materials supplied to the contractor.			Sum	1
A.8.	Contractual requirements	Comply ,maintain all insurance and statutory contributions, etc.				
A.8.1		Allowance to Comply ,maintain all insurance and statutory contributions, etc. (Actual cost will be paid at the end of the project and proof of policy must be provided and must be compliant to contractual requirements)			Sum	1
				Sub-Total A		
B.	TIME RELATED ITEMS					
B.1	Site Establishment					
B.1.2.		Site office 6m x 3m with aircon			Weeks	21
B.1.3.		Site Storage 6m x 3m			Weeks	21
B.1.4.		Water			Weeks	21
B.1.5.		Sanitation (service)			Weeks	21
B.1.6.		Electricity (Eskom/Munic supply)			Weeks	21
B.1.7.		Electricity (Generator 6.5kVA)			Weeks	21
B.2	Accommodation	Accommodation Allowance is for the Contractors Staff excluding the casual labourers which are assumed to be residing in the area where the works are executed.				
B.2.1.		Staff Accommodation Allowance			Weeks	21
B.3	Security					
B.3.1.		Security on site - 24 Hour Unarmed Security (Must be registered with the appropriate body)			Weeks	21
B.5.	Labour	The Contractor need to submit Weekly Time Sheets for all hourly compensation claims and a Daily attendance register				
B.5.1.		Supervisor per team			hourly	
B.5.2.		Construction Manager (SACPMP Registered)			hourly	
B.5.5.		Storeman (Storeman is required to reconcile and quantify All material on site including Eskom supplied material using the correct material return to stores forms. The Storeman shall adhere to the implementation and maintenance plan for Materials Management System for the duration of the contract).			hourly	
B.5.6.		Community Liaison Officer			Daily (Max)	
B.5.7.		Safety Officer (SACPMP Registered)			hourly	
				Sub-Total B		
				Total P & G's Carried To Summary		
Verified By:	Clerk of Works	DATE				
Cost Checked By:	Quantity Surveyor	DATE				
Accepted By:	Contractor	DATE				
Approved By:	Program Manager	DATE				

PROJECT NAME:		START DATE:								
CONTRACTOR:		END DATE:								
CONTRACT #:										
PO NUMBER:										
BILL OF ACTIVITIES										
ITEM	REFERENCE DRAWING	DESCRIPTION	UNIT	SUPPLY QTY	SUPPLY RATE	SUPPLY TOTAL	LABOUR QTY	LABOUR RATE	LABOUR TOTAL	GRAND TOTAL
A		PRELIMINARY AND GENERAL ITEMS								
SUB-TOTAL A										
B		BUSH CLEARING & TREE FELLING								
In the event where the contractor is required to cut, remove and clear trees on site. This activity shall be used to execute such work provided that the quotation submitted is from a contractor who meets all the necessary requirements for Bush Clearing plus fee.										
1		Bush Clearing and Tree Felling (Scattered Formation)	m							
2		Bush Clearing and Tree Felling (Dense Formation)	m2							
SUB-TOTAL B										
C		EXCAVATIONS								
Excavate only as per Eskom Standard for Holes and Trenches for Poles, Stays and Struts. All material will be elsewhere measured.										
1		STAYS & STRUTS								
1.1	D-DT-0350	LV Stay Back-Actor or Hand	Each							
1.2	D-DT-0350	LV Stay auger	Each	49			49			
1.3	D-DT-0350	LV Strut Back-Actor or Hand	Each							
1.4	D-DT-0350	LV Strut auger	Each	11			11			
1.5	D-DT-0337	LV Short Strut Back-Actor or Hand	Each							
1.6	D-DT-0337	LV Short Strut auger	Each							
1.7	D-DT-0350	MV Stay Back-Actor or Hand	Each							
1.8	D-DT-0350	MV Stay auger	Each	34			34			
1.9	D-DT-0350	MV Strut Back-Actor or Hand	Each							
1.10	D-DT-0350	MV Strut auger	Each	11			11			
2		WOOD POLES								
2.7	D-DT-0330	7m Pole Wood Back-Actor or Hand (1.3m Deep)	Each							
2.8	D-DT-0330	7m Pole Wood auger (1.3m Deep)	Each							
2.9	D-DT-0330	7m Pole Wood Hard Rock Drilling (1.3m Deep)	Each	132			132			
2.13	D-DT-0330	9m Pole Wood Back-Actor or Hand (1.5m Deep)	Each							
2.14	D-DT-0330	9m Pole Wood auger (1.5m Deep)	Each							
2.15	D-DT-0330	9m Pole Wood Hard Rock Drilling (1.5m Deep)	Each	104			104			
2.19	D-DT-0330	11m Pole Wood Back-Actor or Hand (1.8m Deep)	Each							
2.20	D-DT-0330	11m Pole Wood auger (1.8m Deep)	Each							
2.21	D-DT-0330	11m Pole Wood Hard Rock Drilling (1.8m Deep)	Each	93			93			
2.22	D-DT-0330	12m Pole Wood Back-Actor or Hand (2.0m Deep)	Each							
2.23	D-DT-0330	12m Pole Wood auger (2.0m Deep)	Each							
2.24	D-DT-0330	12m Pole Wood Hard Rock Drilling (2.0m Deep)	Each	20			20			
SUB-TOTAL C										

D	PLANTING OF POLES							
Planting including backfilling and compaction are measured here. The costs are also inclusive of plant and equipment required to plant the Structures. Stay, Struts and Flying Stay are elsewhere measured. All backfill material included in price								
1	Soil Type 1							
1.13	D-DT-0050	7m Wooden Pole 120-139mm Top Diameter Soil Type 1	Each	132			132	
1.14	D-DT-0050	7m Wooden Pole 120-139mm Top Diameter Soil Type 2	Each					
1.15	D-DT-0050	7m Wooden Pole 120-139mm Top Diameter Soil Type 3	Each					
1.16	D-DT-0050	7m Wooden Pole 120-139mm Top Diameter Soil Type 4	Each					
1.25	D-DT-0055	9m Wooden Pole 160-179 mm Top Diameter Soil Type 1	Each	104			104	
1.26	D-DT-0055	9m Wooden Pole 160-179 mm Top Diameter Soil Type 2	Each					
1.27	D-DT-0055	9m Wooden Pole 160-179 mm Top Diameter Soil Type 3	Each					
1.28	D-DT-0055	9m Wooden Pole 160-179 mm Top Diameter Soil Type 4	Each					
1.73	D-DT-0051	11m Wooden Pole 160-179mm Top Diameter H4 Soil Type 1	Each					
1.74	D-DT-0051	11m Wooden Pole 160-179mm Top Diameter H4 Soil Type 2	Each					
1.75	D-DT-0051	11m Wooden Pole 160-179mm Top Diameter H4 Soil Type 3	Each	86			86	
1.76	D-DT-0051	11m Wooden Pole 160-179mm Top Diameter H4 Soil Type 4	Each					
1.77	D-DT-0051	11m Wooden Pole 180-199mm Top Diameter H4 Soil Type 1	Each					
1.78	D-DT-0051	11m Wooden Pole 180-199mm Top Diameter H4 Soil Type 2	Each					
1.79	D-DT-0051	11m Wooden Pole 180-199mm Top Diameter H4 Soil Type 3	Each	18			18	
1.80	D-DT-0051	11m Wooden Pole 180-199mm Top Diameter H4 Soil Type 4	Each					
1.81	D-DT-0051	11m Wooden Pole 200-219mm Top Diameter H4 Soil Type 1	Each					
1.82	D-DT-0051	11m Wooden Pole 200-219mm Top Diameter H4 Soil Type 2	Each					
1.83	D-DT-0051	11m Wooden Pole 200-219mm Top Diameter H4 Soil Type 3	Each					
1.84	D-DT-0051	11m Wooden Pole 200-219mm Top Diameter H4 Soil Type 4	Each					
1.85	D-DT-0053	12m Wooden Pole 160-179mm Top Diameter Soil Type 1	Each	22			22	
1.86	D-DT-0053	12m Wooden Pole 160-179mm Top Diameter Soil Type 2	Each					
1.87	D-DT-0053	12m Wooden Pole 160-179mm Top Diameter Soil Type 3	Each					
1.88	D-DT-0053	12m Wooden Pole 160-179mm Top Diameter Soil Type 4	Each					
1.89	D-DT-0053	12m Wooden Pole 180-199mm Top Diameter Soil Type 1	Each	19			19	
1.90	D-DT-0053	12m Wooden Pole 180-199mm Top Diameter Soil Type 2	Each					
1.91	D-DT-0053	12m Wooden Pole 180-199mm Top Diameter Soil Type 3	Each					
1.92	D-DT-0053	12m Wooden Pole 180-199mm Top Diameter Soil Type 4	Each					
1.121	D-DT-0054	14m Wooden Pole 160-179mm Top Diameter H4 Soil Type 1	Each	4			4	
1.122	D-DT-0054	14m Wooden Pole 160-179mm Top Diameter H4 Soil Type 2	Each					
1.123	D-DT-0054	14m Wooden Pole 160-179mm Top Diameter H4 Soil Type 3	Each					
1.124	D-DT-0054	14m Wooden Pole 160-179mm Top Diameter H4 Soil Type 4	Each					
SUB-TOTAL D								
E	Single Phase MV Structure (DOWNWIRE EXCL BUT BONDING INCL) Supply and erect MV support structures as per Eskom DDT 0400, 1300, 1700, 1800 drawings and OU specific SI Engineering instructions. Auxiliary equipment such as bonding, jumpers, jumper terminations, pole and x-arm mounting and mounting hardware, conductor attachment hardware and insulators to be included. Poles are measured elsewhere, crossarms are included. Stay, strut material measured elsewhere. Pole, stay and strut excavations are measured elsewhere. Where road crossing structures are to be used the line hardware needs to be changed to include: For intermediate a suitable fullwrap road crossing tie and for a strain structure a 3bolt suitable pistol grip. Other relevant road crossing hardware to be included where required. Road crossings to be inserted in BOQ where required and marked with "RX" as part of the description. MV intermediate structures that fall within high lightning zones in the OU shall have the a spark gap device installed on its BIL downwire. Refer DDT3134. All other intermediate structures will have a normal BIL. All line hardware purchased will be paid elsewhere as cost plus fee.							
7	Assemble Three Phase MV Structures (Downwire excluded but Bonding Included) Intermediate - 0 deg							
	D-EC2063	3 Phase Delta intermediate 0 degrees D2063 - A-Frame with 4kN Posts + Bird Perch	Each	69			69	
10	Strainer - 0 deg							
10.4	D-DT-1743	3 Phase - 600mm Phase Spacing Delta / 2,5m Wood Crossarm	Each	4			4	
12	Strainer - Medium (1 - 60) deg							
12.1	D-DT-1744	3 Phase - Delta / 2,5m Wood Crossarm	Each	8			8	
14	Strainer - Terminal							
14.4	D-DT-1746	3 Phase - Delta / 2,5M Wood Crossarm	Each	9			9	
14.9	D-DT-1776	3 Phase - H-pole / 4,5m Wood Crossarm	Each	8			8	
15	Take-Off							
15.4	D-DT-1804	3 Phase Take-Of - 2,5M Wooden Crossarm	Each	9			9	
SUB-TOTAL E								
F	ASSEMBLE MV STAYS							
Supply and install stays, flying stays, struts Hip Stay including backfilling & compaction. Accessories include staywire, stayrods, stay plates, soil anchors, stay insulators, guy grips stay mounting brackets, mounting hardware, anti climbing devices, stayguards and danger labels. Poles and excavations are measured elsewhere. The installation and erection of strut poles are measured here. All hardware purchased will be paid elsewhere as cost plus fee.								
1.1	D-DT-0341	Make-Off Conventional Stay	Each	34			34	
1.2	D-DT-0343	Make-Off Flying Stay	Each	3			3	
1.3	D-DT-0342/0351	Make-Off Strut Pole	Each	23			23	
SUB-TOTAL F								

ASSEMBLE 3 PHASE LV STRUCTURES							
Supply and erect LV support structures as per Eskom DDT 1100(only use insulated neutral ABC). Auxiliary equipment such as strain clamps, suspension clamps, cable ties, IPC's , end caps, LV shackle insulators, binding wires, D brackets, dead end preforms, threaded rods, pigtail bolts, eyenuts, terminations to be included. Pole, stay and strut material and excavations are measured elsewhere. All hardware purchased will be paid elsewhere as cost plus fee.A436							
3		C. List of 3-phase ABC wood pole					
3.1	D-DT-1100	LV - 3 Phase insulated/bare neutral ABC Suspension Assembly 0-30 Deg.	Each				
3.2	D-DT-1121	LV - 3 Phase insulated/bare neutral ABC Strain Assembly 0-60 Deg.	Each				
3.3	D-DT-1122	LV - 3 Phase insulated/bare neutral ABC Strain Assembly 60-90 Deg.	Each				
3.4	D-DT-1120	LV - 3 Phase insulated/bare neutral ABC Terminal Assembly	Each	50		50	
3.5	D-DT-1140	LV - 3 Phase insulated/bare neutral ABC T-Off Assembly from Intermediate	Each				
3.6	D-DT-1141	LV - 3 Phase insulated/bare neutral ABC Cross Intermediate - Intermediate Assembly	Each				
3.7	D-DT-1142	LV - 3 Phase insulated/bare neutral ABC T-Off Assembly From Strain	Each				
3.8	D-DT-1143	LV - 3 Phase insulated/bare neutral ABC Cross Intermediate - Strain Assembly	Each				
ASSEMBLE 3 PHASE LV STRUCTURES							
Supply and erect LV support structures as per Eskom DDT 1100. Auxiliary equipment such as strain clamps, suspension clamps, cable ties, IPC's , end caps, LV shackle insulators, binding wires, D brackets, dead end preforms, threaded rods, pigtail bolts, eyenuts, terminations to be included. Pole, stay and strut material and excavations are measured elsewhere. All hardware purchased will be paid elsewhere as cost plus fee.A436							
4		D. List of three-phase Bare Wire wood pole					
4.1	0920	LV 3phase Bare Wire Suspension Assembly 0 Deg	Each	133		133	
4.2	0921	LV 3phase Bare Wire in-line Strain Assembly	Each				
4.3	0922	LV 3 phase Bare Wire 1-100 Deg Angle Assembly	Each	46		46	
4.4	0924	LV 3 phase Bare Wire Terminal Assembly	Each	55		55	
4.5	0925	LV 3 phase Bare Wire T-Off Assembly from Intermediate	Each	2		2	
4.6	0926	LV 3 phase Bare Wire Intermediate Right Angle Crossing	Each				
4.7	0927	LV 3 phase Bare Wire T-Off Assembly from Strain	Each	3		3	
4.8	0928	LV 3 phase Bare Wire Cable Connection	Each				
4.9	0929	LV 3 phase Bare Wire Service Distribution Box Connection	Each				
4.10	0932	LV 3 phase Bare Wire Open Wire/ABC Connection	Each				
4.11	0934	LV 3 phase Bare Wire Intermediate Strain Crossing	Each				
4.12	0935	LV 3 phase Bare Wire Strain-Strain Crossing	Each				
ASSEMBLE SINGLE - PHASE LV STRUCTURES							
Supply and erect LV support structures as per Eskom DDT 1100. Auxiliary equipment such as strain clamps, suspension clamps, cable ties, IPC's , end caps, LV shackle insulators, binding wires, D brackets, dead end preforms, threaded rods, pigtail bolts, eyenuts, terminations to be included. Pole, stay and strut material and excavations are measured elsewhere. All hardware purchased will be paid elsewhere as cost plus fee.A436							
6		F. List of Single-phase Bare Wire wood pole					
6.1	0960	LV 1phase Bare Wire Suspension Assembly 0 Deg	Each	4		4	
6.2	0961	LV 1phase Bare Wire in-line Strain Assembly	Each				
6.3	0962	LV 1 phase Bare Wire 1-100 Deg Angle Assembly	Each				
6.4	0964	LV 1 phase Bare Wire Terminal Assembly	Each				
6.5	0965	LV 1phase Bare Wire T-Off Assembly from Intermediate	Each	1		1	
6.6	0966	LV 1phase Bare Wire Intermediate Right Angle Crossing	Each				
6.7	0967	LV 1 phase Bare Wire T-Off Assembly from Strain	Each				
6.8	0968	LV 1 phase Bare Wire Cable Connection	Each				
6.9	0969	LV 1 phase Bare Wire Service Distribution Box Connection	Each				
6.10	0970	LV 1phase Bare Wire Open Wire/ABC Connection	Each				
6.11	0971	LV 1 phase Bare Wire Intermediate Strain Crossing	Each				
6.12	0972	LV 1 phase Bare Wire Strain-Strain Crossing	Each				
6.13	0980	LV Bare Wire - MV/LV Bare Wire Staying Technology	Each				
6.14	0981	LV Bare Wire - LV Metering 3Phase, 2Phase and 1Phase Connections	Each				
6.15	0982	LV Bare Wire - Eye Nut Assembly	Each				
6.16	0983	LV Bare Wire - Binding Techniques	Each				
SUB-TOTAL G							
H	ASSEMBLE LV STAYS						
Supply and install stays, flying stays, struts Short Stay including backfilling & compaction. Accessories include staywire, stayrods, stay plates, soil anchors, stay insulators, guy grips stay mounting brackets, mounting hardware, anti climbing devices, stayguards and danger labels. Poles and excavations are measured elsewhere. The installation and erection of strut poles are measured here. All hardware purchased will be paid elsewhere as cost plus fee.							
1.1	D-DT-0341	Make-Off Conventional Stay	Each	48		48	
1.2	D-DT-0343	Make-Off Flying Stay	Each				
1.3	D-DT-0342/0351	Make-Off Strut Pole	Each				
1.4	D-DT-0344	Make-Off Short Strut Pole	Each				
SUB-TOTAL H							

I		POLE TOP BOX INSTALLATION						
Install on a wooden and/or concrete pole a pole mounted distribution box as specified complete with pole mounting brackets (including sealing), cable ties, PG clamps, miniature circuit breaker(s), neutral, phase and earth bars, insulated copper tails for connecting to LV ABC, insulation piercing connectors and factory installed cable openings. Included shall be the stainless steel strapping, buckles and terminations of the tails onto the LV ABC. Eskom D-DT standards as amended will apply.								
1.8	3055	BOX,POLE TOP SPLIT METER 2-WAY 50A D3055	Each					
1.9	3055	BOX,POLE TOP SPLIT METER 4-WAY 50A D3055	Each					
1.10	3055	BOX,POLE TOP SPLIT METER 2-WAY 120A D3055	Each	191			191	
1.11	3055	BOX,POLE TOP SPLIT METER 8-WAY 50A D3055	Each					
SUB-TOTAL I								
J		CONDUCTOR STRINGING (TENSION, REGULATE & BIND IN)						
Install Eskom issued marked conductor. Material quantity to allow for 5% sag in addition to actual conductor length quantity. Installation includes handling, stringing and final sagging. This will be for greased ungreased conductor								
1.1		Fox Conductor 1-Phase	m	29577			29577	
1.2		Fox Full Tension Joint*	Each					
1.16	0831	35mm sq. Full Tension Joint* 2 Core	Each					
1.17	0831	35mm sq. Full Tension Joint* 3 Core	Each					
1.18	0831	35mm sq. Full Tension Joint* 4 Core	Each					
1.19		35 mm sq. ABC 3-phase	m					
1.20	0800 series	70mm sq. Full Tension Joint* 4 Core	Each					
1.21		70 mm sq. ABC 3-phase	m				750	
SUB-TOTAL J								
K		EQUIPMENT INSTALLATION						
Install Transformer/Recloser/Voltage Regulator/MV Metering Units as per relevant Eskom DDT 1800 Series Assembly Drawing and OU Specific SI Engineering Instructions. All Auxiliary Equipment to include Station and Distribution MV, LV Surge Arrestors, Control Boxes, Metering Kiosks, Jumper Terminations, Anti Climbing Devices, LDPE Pipe Covered Jumpers as per 02TB-023 and Danger Labels, Channel Irons, Cradles, Standoff Insulators, Conductor Busbars and suitable Equipment Labels & X Arms. Pole Planting, Stays, Struts, Isolators Earthing Material and Excavations are elsewhere measured. Transformers/Reclosers/Voltage Regulators and MV Metering Units will be Eskom Free Issue Material. Main Line Structures and Auxiliary Equipment are elsewhere measured. All material purchased will be paid elsewhere as cost plus fee.								
1		Transformers						
1.4	D-DT-1865	Install 2-Pole Platform Mounted Transformer Structure (Out of Line)	Each	1			1	
1.5	D-DT-1865B	Transformer - Out- of- Line 100kVA to 200kVA	Each					
1.6	D-DT-1866	Install Single Pole Mounted Out of Line Transformer Structure (Out of Line)	Each	2			2	
1.7	D-DT-1866B	Transformer - Out- of- Line 16kVA to 100kVA/64kVA	Each					
1.23		Install Labels (Chromadek)	Each				12	
1.24	1860	Transformer - 5-100kVA Single Pole Mounted	Each	1			1	
1.25	1861	TRANSFORMER - 100-200kVA / 2-POLE PLATFORM MOUNTED (H-POLE) GENERAL ARRANGEMENT	Each	8			8	
2		Transformer MV Protection						
2.1	D-DT-1849	Equipment Links Out-Outs Or Disconnectors 2.5m Wood Crossarm / Single Pole	Each	9			9	
3		Transformer LV Protection						
3.1	D-DT-0309	80A Morsdorf Type Fuses - 3-Phase	Set	24			24	
4		Pole Mounted Sectionalizer						
4.1	D-DT-1821	Install Sectionalizer Structure	Each					
4.2	D-DT-1828	Install Sectionalizer - Out-Of-Line Structure	Each					
4.3	D-DT-1821	Install Sectionalizer	Each					
4.4	D-DT-1848	Section Links Out/Outs Or Disconnectors 2.5m Wood Crossarm / Single Pole	Each	3			3	
SUB-TOTAL K								

L	EARTHING INSTALLATION							
MV & LV Earthing Trenching shall include Excavation, Backfilling, Compaction and Installation of electrode and conductor as per the Eskom Standard for Earthing								
1	Transformer - MV Earthing							
1.1		Excavation - length long, 0.5m deep and 0.6m wide	m ³	54			32.4	
1.2	D-DT-3139	16mm sq. Bare Stranded Cu Conductor	m	240			240	
1.3	D-DT-3137	16mm sq. Insulated Stranded Cu Conductor	m	114			114	
1.4	D-DT-3091	Earth Electrode (Type as per the design)	Each	60			60	
1.5		Backfill - length long, 0.5m deep and 0.6m wide	m ³	54			54	
2	Transformer - LV Earthing							
2.1		Excavation - length long, 0.5m deep and 0.6m wide	m ³	43.2			43.2	
2.2	D-DT-3139	16mm sq. Bare Stranded Cu Conductor	m	192			192	
2.3	D-DT-3137	16mm sq. Insulated Stranded Cu Conductor	m	114			114	
2.4	D-DT-3091	Earth Electrode (Type as per the design)	Each	60			60	
2.5		Backfill - length long, 0.5m deep and 0.6m wide	m ³	43.2			43.2	
SUB-TOTAL - L								
M	SERVICE CONNECTION INSTALLATION							
House Connections include installation of ready board, mounting hardware, wooden backboards, customer interface units, conduit pipe, excavations and backfilling of underground connection, capturing of customer data including GPS coordinates. Digging and bulleting for road crossing including installation of sleeves and warning tape are measured here								
1.1	D-DT-0360	Overhead service connection direct to dwelling (from the pole top box to the pre-paid meter) (Type A) to brick dwelling	Each	576			576	
1.2	D-DT-0360	Overhead service connection with service pole (from the pole top box to the pre-paid meter) (Type B) to mud dwelling	Each					
2	Split / Smart Metering							
2.1	D-DT-3145	Customer Interface Unit	Each	576			576	
2.2	D-DT-3176	Split Meter Ready-Board	Each	576			576	
2.3	D-ST-2351	Wooden Backboard for Ready board mounting (for Tin and Mud houses)	Each					
2.4		Split Meter Installation	Each	576			576	
2.5		Capture and Upload of Customer Data New & Existing Including GPS Coordinates	Each	576			576	
SUB-TOTAL M								
N	Service Conductor Installation: Accessories for Service Conductor installation shall include installation of pigtail, bolts, strain clamps, threaded rod, cable saddles, stringing of all types of service cable. Installation of poles and its accessories are measured elsewhere							
1	D-DT-3140	6mm sq Tinned Copper Airdac with Communication Core	m	18030			18030	
3	D-DT-0384	Kicker Pole Dressing	Each	132			132	
4	D-DT-0384	Shack Pole Dressing	Each					
5	D-DT-3128	16mm sq Underground	m					
6	0366	Service suspension assembly	Each					
7	0384	Service strain assembly/arrangement	Each	132			132	
SUB-TOTAL N								
S	LABELLING							
Allow for the following end items to be applied as per relevant Eskom Instructions/Bulletins/Procedures and Standards where not already allowed for in Structure Package								
1.1		MV Pole Number	Each	98			98	
1.2		LV Pole Number	Each	244			244	
1.3		Meter Number	Each	576			576	
SUB-TOTAL S								
T	EQUIPMENT TESTING							
Allowance shall be made for the complete testing and commissioning of Medium Voltage equipment. Tests to include earth electrode resistance measurement. Transformer to include a LV earth electrode resistance measurement. Soil Resistivity Tests for Equipment to be performed as appropriate and to be verified by Eskom's Clerk of Works, and must be according to Eskom Standard								
1.1		Perform Phasing Test	Each					
1.2		Continuity Tests	Each					
1.3		Earth Resistance Test	Each	12			12	
1.4		A.C. Over-Voltage Test	Each					
1.5		D.C. Insulation Test	Each					
1.6		Outer Sheath Test (Serving Test)	Each					
1.7		Compaction Test	Each					
1.8		C.O.C Test for Certificate	No	576			576	
1.9		Voltage Regulator commissioning test	No					
1.10		Recloser commissioning test	No					
SUB-TOTAL T								
U	AS - BUILTS							
Allow for the following end items to be applied as per relevant Eskom Instructions/Bulletins/Procedures and Standards where not already allowed for in Structure Package								
1		As-built Drawings	Each	1			1	
SUB-TOTAL U								
VERIFIED BY: CLERK OF WORKS				DATE:				
COST CHECK BY: QUANTITY SURVEYOR				DATE:				
ACCEPTED BY: CONTRACTOR				DATE:				
APPROVED BY: PROGRAM MANAGER				DATE:				

PROJECT NAME:		START DATE:			
CONTRACTOR:		END DATE:			
CONTRACT #:					
PO NUMBER:					
BILL OF ACTIVITIES					
ITEM	DESCRIPTION	UNIT	LABOUR QTY	LABOUR RATE	LABOUR TOTAL
W	TRANSPORT				
Unless otherwise specified, transport is to be used under specific instruction from the Project Manager only. This excludes staff transport. Staff transport is to be paid to transport workers from base location to site only. LDV/4x4 will only be paid for justifiable use and will be to the sole discretion of the Project Manager					
1.1	LDV 4x2	km			
1.2	LDV/4x4	km			
1.3	Personnel Transport for Staff	km			
1.4	10 m³ Tipper Truck	km			
1.5	6 m³ Tipper Truck	km			
1.6	Transport Truck 2-4 ton	km			
1.7	Transport Truck 5-8 ton	km			
1.8	Transport Truck 5-8 ton with crane	km			
1.9	Transport Truck 9-14 ton	km			
1.10	Transport Truck 9-14 ton with crane	km			
SUB-TOTAL W					
VERIFIED BY: CLERK OF WORKS		DATE:			
COST CHECK BY: QUANTITY SURVEYOR		DATE:			
ACCEPTED BY: CONTRACTOR		DATE:			
APPROVED BY: PROGRAM MANAGER		DATE:			

PART 3: SCOPE OF WORK

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C3.1: EMPLOYER’S WORKS INFORMATION

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1 Description of the works

1.1 Executive overview

The project was initiated by plant, quality of supply section and falls under refurbishment category. Project was triggered by existing risks of an unsafe MV and LV network to operate and a potential hazards to community due to illegal clearances. The meters are around 30 years and could pose safety risks. Thus, a rebuild of entire MV and LV, service cable and meter replacement is required for Ravinia township

1.2 Employer's objectives and purpose of the works

Replace 5km of squirrel conductor and build three phases of Fox conductor on the MV line from structure RAV 50 to structure MHST060/9 in order to supply the section 2 and the new section 3 areas. Re-build the network and re-electrify 582 customers based on the applicable Eskom standard design and make the network safe for both Eskom personnel and the community. 582 customers were based on the Final Design Package.

1.3 Interpretation and terminology

The following abbreviations are used in this Works Information:

Abbreviation	Meaning given to the abbreviation
AFC	Approved for construction
OBL	Outside battery limits
PM	Project Manager
CPE	Contract Project Engineer
CPM	Contract Project Manager
EMP	Environmental Management Program
PE	Project Engineer
PES	Project Engineer Specialist
FDP	Final Design Package
T&Q	Technology and Quality Department - Eskom

2 Management and start up.

2.1 Management meetings

Regular meetings of a general and Legal nature shall be convened and chaired by the *Project Manager/Project co-ordinator or representative so delegated by Eskom Holdings SOC Limited. As part of the contractor's responsibility with an objective of minimizing the adverse effects of risks and surprises for both Parties, meetings shall be held at reasonable times as defined OHS act as follows:*

Title and purpose	Approximate time & interval	Location	Attendance by
Kick-Off Meetings		On site	e.g. <i>PM, Contractor, Supervisor, and _____</i>
Risk register and compensation events	Weekly on at		
Overall contract progress and feedback	Monthly on ___ at		<i>e.g. Employer, Contractor, Supervisor, and</i>
Technical Site Meetings			
Health, Safety & Environmental Meetings			
Community based Meetings			

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.

2.2 Documentation control

All contractual Documentation must have relevant contract number and Purchase Order Number as reference as per Eskom Holdings SOC Limited Standards (List). Contractual communications will be in the form of properly compiled letters, letters attached to emails, emails, NEC template and urgent contractor meetings can be in the form of sms and as outlined on core clause 13 of the NEC3 ECC.

The use of sms's, emails does not override the use of applicable and relevant NEC3 ECC standard templates, forms and Eskom Holdings SOC Limited procedures.

Note: It is the contractor responsibility to acquire and familiarize themselves with the NEC3 ECC.

2.3 Health and safety risk management

The *Contractor* shall comply with the health and safety requirements contained in Annexure 32-136 to this Works Information.

The contractor SHE files should be submitted and approved within 5 working days. The contractor is given one opportunity to correct within one day of failing which Eskom reserves the right not to issue the task order.

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 Manager* upon completion of the project.

2.4 Environmental constraints and management

The *Contractor* shall comply with the environmental criteria and constraints contained in the FOP and attached in Annexure B to this Works Information and consist of the following documentation to comply with:

- Environmental Legal Compliance for Eskom Distribution Projects with DESD's signed
- DESD Process applicable to a particular Eskom OU
- 240-71555318 Distribution generic EMP for operations Maintenance Standard
- DPC_34-926 doc incorporating Water use issues draft 1(3) (Repaired) draft 0A

Notes and Requirements for Environmental Compliance

- Contractors must be aware of environmental specifications in contracts and comply with them;
- Contractors building new lines and substations, and performing maintenance on existing infrastructure to attend environmental law course;
- Legal contraventions involving contractors to be communicated to all other contractors to avoid recurrence;
- Contractors to follow and comply with EMP's provided;
- Contractors building new assets or maintaining existing assets to always have a copy of the EMP, EA and any other permits (tree, water, heritage) available on site where such documents exist;
- Contractors assisting with self-build projects for third parties to attend the DESD course;
- Contractors assisting with self-build projects for third parties to ensure that the relevant documentation including the DESD is handed over to and approved by the Land Development section. Such contractors take
- liability for the completion of the DESD;
- All environmental incidents to be brought under the attention of the Eskom Holdings SOC Limited representative within 24 hours;
- Contractors must demand/request a copy of the DESD for their projects);
- Read and understand the DESD and EMP;
- (K) Ensure all relevant staff are aware of the conditions of the DESD and EMP;
- Review DESD and EMP before tendering;
- Authorizations are only issued for specific projects after submissions of the Basic Assessment.

2.5 Quality assurance requirements

Quality Control

- An approved Quality Control Programme is to be implemented in conjunction with, and to the approval of, the *Project Manager*.
- The Quality Control Document for Substation is to be used per construction stage and signed off by the relevant people indicated in the document.
- The following Quality Control stages to be documented:
 1. Geotechnical investigation & report for each pole foundation.
 2. DCP tests & soil nominations for each stay foundation.
 3. Steel inspection on steel poles at delivery
 4. Structure dressing & installation Quality control checksheets
 5. Stay pull tests per stay
 6. Earth resistance (pole foot) tests per structure
 7. Sag & tension records during stringing of conductors and shieldwire
 8. Recording of full tension joints

Quality Engineering

- All construction and installation methods are to comply with the *Power Delivery Engineering* standard requirements as contained in the National and Provincial Standards on the Distribution Technology websites.
- The Contractor shall comply with the Project Specifications included in the FDP document. Any changes proposed during the construction phase shall notify the Project Manager who will follow the Project Change Request approval process.
- Eskom Holdings SOC Limited's representative must be notified at least 30 days prior to the commissioning of the substation (in the case of a substation).

- Eskom Holdings SOC Limited's representative must be allowed access to the site at any time during the construction to carry out an inspection of the works.
- Before the start of the construction stage, the Contractor will confirm with the Clerk of Works which activities are identified as Holding Points/milestone and which activities he would like to be photographed as proof for compliance if not present. A Holding Point is an activity for which arrangements have to be made for the Clerk of Works to be present and to witness the work procedure.
- Each stage, once completed by the contractor, will be signed off by both the Contractor and Clerk of Works. The Clerk of Works will indicate whether the activity was:
 - Witnessed (W) - present during this activity
 - Verify (V) - not present but confirm compliance.
- Once all the activities have been completed, the Quality Control Programme shall be presented to the Project Manager to sign off the Handover Certificate of each stage.

2.6 Programming constraints

The contractor shall submit his construction program in terms of the conditions of contract. This program shall be submitted according to Part one – Data provided by the *Employer* (Time).

- **This** Site Establishment
- Bush clearing
- Survey
- Foundations
- Pole layout
- Dressing of structures
- Planting poles & stays
- Stringing of conductors
- Stringing of shieldwire
- Outage Program & Requirements
- Commissioning

Every activity on the programme will be clearly linked to a **labour** resources and **equipment** required to perform the specific activity.

Weather delays based on the rainfall data supplied under Part 2 (C1.2 Annexure A), must be included in the programme. Only weather delays over and above the specified number of rain days will qualify for evaluation as delays.

Completion and hand-over dates for formal inspection by the site supervisor must be indicated.

Project expenditure (cash flow projection) on a monthly basis for the entire duration of the contract must be indicated.

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 on a weekly basis.

Should any deviations to the program be found, the *Contractor* shall submit a revised program to the *Project Manager* within one week.

The *Project Manager* retains the right to alter the Accepted Program should circumstances on *site* necessitate such a change.

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 working days for the entire construction period or alternatively all the non-working days within the construction period.

2.7 Contractor's management, supervision and key people

The *Contractor* shall also provide a detailed organization chart showing the personnel to be employed for the *works*, along with Training certificates of all key personnel. Contractors to submit proof to Eskom that their Contracts manager or delegated employee representative has NEC ECC training. A full definition of ONE

team shall form part of the organization chart per project and identity number shall form part of this document.

2.8 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 Ltd 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;
- (add other as required)

Note: All material purchased by the contractor will be paid once they have been installed. The risk of paying the material prematurely delivered to site will remain with the contract.

Financial records are to be kept by the Contractor on any additional items not included in the original Scope of Works/Activity List.

An **EPWP (Expanded Public Works Programme)** report must accompany each invoice as part of the approval and acceptance process of the monthly assessment and reporting stage.

Add procedures for invoice submission and payment (e. g. electronic payment instructions)

2.9 Insurance provided by the *Employer*

The insurance provided by the *Employer*, is addressed under the contract data by the *Employer* under Annexure B "Insurance provided by the Employer". In this case Format Dx is applicable for this contract.

2.10 Contract change management

For any compensation event relating to changes to scope and additions to scope which were not part of the original scope, such changes shall be treated under compensation event core clause section 6 of the NEC3. The contractor shall notify the Project Manager of any changes to Site Personnel within 5 (Five) working day

2.11 Training workshops and technology transfer

Technological requirements and standards that are applicable at this stage of contract establishment may change and contractors are required to comply with latest standards. In the event that this results in a cost implication, this will be dealt with according to section 6 of the NEC/ECC Contract.

Contractor shall comply with all SD&L requirements relating to training, workshops and any technology transfer obligations.

3 Engineering and the *Contractor's* design

The contractor shall execute the works as per the Employer's Final Design Package (FDP)/ Detailed Design Package (DDP). (PCR to advise)

3.1 *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.

3.2 Equipment required to be included in the *works*

The Contractor shall propose at the start of the project and Project Manager/ Engineer to approve.

3.3 As-built drawings, operating manuals and maintenance schedules

The Contractor completes as-built drawings and as-built schedule of quantities per transformer zone handed over as completed. The Contractor submits these as-built drawings and as-built schedule of quantities as part of the hand-over documentation in line with the completion dates indicated on the approved construction programme.

Should there be conflict between the specification and drawings, then documentation shall be considered in the order of priority set out below:

- Tender Correspondence/Minutes/Site Instructions
- Approved Sample Line
- Works Information & Final Design Package
- Drawings
- Power Delivery Engineering Standard
- Should the Contractor note any inconsistency between the specification and drawings he shall notify the Project Manager and obtain clarification or instructions prior to collecting and installing materials and plant for the work.

4 Procurement

4.1 People

4.1.1 Minimum requirements of people employed on the Site

Extended Public Works Programme (EPWP) shall be applicable on all projects. The EPWP report template is included as supporting documentation and forms part of this Contract.

To be compiled by the Contractor:

- Base indicators to be collated on all EPWP projects (Table 1)

Table 1: Base indicators to be collected on all EPWP projects

B1 Number	Project level Indicator to be used in monitoring system	Comments
1	Number of people ("Different warm bodies") employed on relevant project	Will be assumed to be equivalent to number of job opportunities created. Will measure the number of people to benefit directly from the EPWP
2	Person-days of employment created	Total number of person days created will be divided by 230 to convert to person years of employment created
3	Minimum wage rate	Since local public bodies may set the wage rate as part of the EPWP to wage rate on a particular project will need to be reported
4	Number of training days provided	Since all workers are entitled to training it is important to ensure that actual training is delivered
5	Overall spending on the project	Will give an indication of how much is actually spent on EPWP projects
6	Demographics of workers on EPWP Projects	The percentages of women, youth and disabled to be reported on.

- KPI to be used for the EPWP (Table 2)

Table 2: KPI's to be used for the EPWP

KPI	KPI	Method for calculation	Comment
1	Number of Job opportunities created	Assumed to be equal to number of warm bodies employed per project	Will give an indication as to how many unemployed people benefit directly from the EPWP
2	Person years of employment created	Divide the total number of person days of all projects by 230 (Agreed upon number of person days of employment per year)	Indicator that shows the equivalent number of full-time jobs created
3	Number of training days provided	Total sum from all projects	Measure total amount of training provided
4	Overall spending on EPWP projects	Total sum from all projects	Measure total government spending on the EPWP
5	Demographics of workers on EPWP projects	Total sums of the project totals of women, youth and disabled employed	Measures the demographics of the people benefiting from the EPWP
6	Average length of employment created	Divide person years of employment created (KPI 2) by number of job opportunities (KPI 1)	Also allows comparison between sectors and types of projects
7	Total income paid out to previously unemployed	Multiply number of person-days (BI 2) by the minimum wage (BI 3)	

8	workers Average income of EPWP worker	Divide Total income (KPI 6) by Number of job opportunities (KPI1)	
9	Average duration of training provided	Divide total number of training days (KPI 3) by number of job opportunities (KPI 1)	Provides an indication of the level of skills build in the programme
10	Percentage of spending paid out to EPWP workers	Divide total income paid out (KPI 6) by Overall spending on EPWP (KPI 4)	Measure the labour intensity of the EPWP

4.1.2 BBBEE and preferencing scheme

The "PREFERENCE POINTS CLAIM FORM IN TERMS OF THE PREFERENTIAL PROCUREMENT REGULATIONS 2011" is applicable as described under the "Invitation to Tender" section.

4.2 Subcontracting

4.2.1 Preferred subcontractors

Any appointment of a subcontractor by the *Contractor* is to be approved by the *Project Manager*. The *Sub Contractor* must be CIDB registered. A maximum of 25% of the Works may be sub-contracted subject to Project Managers approval.

4.2.2 Subcontract documentation, and assessment of subcontract tenders

The use of the NEC3 - ECSC is required.

4.2.3 Limitations on subcontracting

A maximum of 25% (unless otherwise agreed) of the Works may be sub-contracted subject to *Project Managers* approval.

4.2.4 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.

4.3 Plant and Materials

4.3.1 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.

All materials shall be new and of the best quality and shall conform to the requirements of the Eskom Buyers Guide (Eskom Distribution Standard Part 9). With regards to the material supply chain, the approved materials manufacturer and marking requirements shall be set out on a schedule and approved before construction.

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

The following Big five (5) materials will be supplied by Eskom ("Free issue"):

- 1) Transformers (Pole-mounted and other),
- 2) Poles,

- 3) Meters and Bases,
- 4) Conductors and Cables,
- 5) Airdac.

Please note the contractor is accountable for all the material for the Project.

Materials supplied by Eskom, will be delivered to Contractor Site.

The Delivery Driver and the Contractor shall sign the Goods Issue Document at delivery date as a declaration that;

- The quantities are correct as specified on the Good Issue Document
- The quality of material is acceptable
- Any discrepancies found shall be noted in the remarks column and co-signed by the Dispatch Controller and the Contractor

Refer to the following link for Standards:

<http://tescod.eskom.co.za/prto9BG/BUYERS GUIDE 3000.htm>

<http://tescod.eskom.co.za/prto9BG/BUYERS GUIDE 2000.htm>

<http://tescod.eskom.co.za/prt09BG/BUYERS GUIDE 0000.htm>

4.3.3 Contractor's procurement of Plant and Materials

All material is to comply with the **latest** Eskom Approved Manufacturer's List as published in the Southern Region by the Eskom T&Q Department. Any non-standard material items are to be approved by Eskom Holdings Limited before use on the project. Acceptance sampling is to be carried out on receipt of material on site in order to inspect the outward condition of the material item.

In exceptional cases which require materials and/or techniques which are not contemplated in the various Distribution standards shall be approved by the nominated **Senior Engineer, Ralph Reddy, Phone No: 043-703 2294**. The written approval shall be submitted together with the tender.

The *Contractor* will be required to arrange a material sample inspection on site according to the requirements supplied by the PE. At this inspection materials will be recorded and approved per item by the PE, the Eskom PES and the T&Q Department.

4.3.4 Spares and consumables

All hardware to be supplied by *Contractor* is to be as per Eskom Standards limited to Eskom's approval. All hardware and cost thereof shall be within the mandate that has been Eskom approved.

4.4 Tests and inspections before delivery

The *Contractor* will be required to arrange and supply the following:

Material Sample Inspection: - A sample of each material item is to be presented for an inspection by the Eskom T&Q Department. A 2 week notification period required.

4.5 Marking Plant and Materials outside the Working Areas

Where applicable. Subject to approval of the Clerk of Works.

4.6 Contractor's Equipment (including temporary works).

The *Contractor* is to provide the necessary equipment to complete the *Works* safely and by the *completion date*. (Refer to item 5.9)

5 Construction

5.1 Temporary works, Site services & construction constraints

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

The contractor provides a secure and accessible area for the Site Camp, which includes secure storage facilities and areas, etc. The location of the site camp shall be determined in consultation with the *Project Manager*, local communities, and the relevant authorities.

The *Employer* is to provide a 24 hour, 7 days a week, access and perimeter control unarmed security service from a reputable security firm. The security firm shall be registered with PSIRA and shall have a Grade D classification. At least one guard during the day and 2 x guards during night time is required for the duration of this contract. The *Contractor* must provide a suitable guard house for the security guards and to be priced as under item 1.2.5 in the Bill of Quantities.

On completion of the contract, the contractor removes the site camp and offices, and the area will be left in its original state to the satisfaction of the employer's representative and the Environmental Officer.

Site Establishment Costs

The *Contractor* shall take note that the total cost involved in establishing site services, facilities, and temporary works shall be incorporated in the Fixed and Time Related Preliminary & General costs part of the Bill of Quantity.

In situations where private roads must be used for construction purposes, the condition of the said roads shall be recorded (e.g. Photographed) prior to the use thereof and be agreed upon by the *Employer*, the *Landowner* and the *Contractor*. The *Contractor*, at all times at his expense, shall maintain all private roads used as access to the site of work by the *Contractor*. Upon completion of the work, the road shall be left in at least the condition it was prior to the commencement of the construction activities.

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

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

5.1.2 Restrictions to access on Site, roads, walkways and barricades

Where possible, access along the power line must be established by utilizing existing tracks. Access roads shall only be constructed and maintained where necessary at watercourses, steep slopes or where boulders and rocks prohibit vehicular traffic. No access roads shall be constructed in and/or outside the power line servitude without the written instructions from the *Project Manager*.

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

Restrictions and hours of work will apply on Site. It is very important that the *Contractor* keeps records of his people on Site, including those of his Subcontractors which the *Project Manager* or *Supervisor* have access to at any time. These records will be needed when assessing compensation events.

5.1.4 Health and safety facilities on Site

The *Contractor* shall at all times adhere to the **Safety Health & Environmental Specification** attached in the Annexure of the contract document.

A Health & Safety Plan as well as the Health & Safety File as specified in the **Safety Health & Environmental Specification** must be kept on site and updated on a regular basis. Daily safety tailgate talks with task risk analysis shall be held and recorded to discuss the safety aspects and risks involved in the day's work to ensure safe operation throughout the contract period.

Health & Safety meetings shall be held at least once a month and records of minutes kept in the H&S file on site. The following items on the agenda to be discussed as a minimum requirement:

- Eskom Monthly Safety Theme – inform staff.
- Eskom Incident Case Studies and Recommendations
- OHS Act appointments – Updates, Validity, Expiry dates etc.
- PPE – issued and required.
- Safe Work procedures (Method Statements) – updates/changes
- Equipment – Inspection records updated
- Training requirements
- Staff Medicals
- Environmental issues

The *Contractor* shall not **be allowed to work on any “live” structures. All live structures are to be identified beforehand and shown to all the contractor’s staff – notification to be official recorded and kept in the SHE file on site.**

The *Contractor* shall not be **allowed to leave any excavation open** without supervision. If foundations cannot be planted on the same day of the excavation, holes are to be closed over the night period or full time security guard to be arranged.

Machinery that can encroach on the safe working clearances with regard to live lines and equipment, are not to be operated within nine metres of live reticulation lines, without the direct supervision of a qualified supervisor under the *Employer’s* HV Regulations and the OHS Act.

Precautions against Damage

The *Contractor* shall take precautions for the protection of life and property on, or about, or in connection with the contract. The *Contractor* shall be held liable for any damage arising from negligence on the part of himself and his employees. The *Contractor* will ensure that excavations are done carefully as per the construction drawings. The damages occurring during any required excavations will be for the contractor's risk, and must therefore be repaired by the contractor.

Protection of the environment should at all times be adhered to.

Customer & Client liaison

The contractor will ensure that all required outages be communicated to the *Project Manager* and that the necessary outage requests are tabled for approval at the Monthly Outage meetings of the applicable area.

5.1.5 Environmental controls, fauna & flora, dealing with objects of historical interest

The *Contractor* shall at all times adhere to the **Environmental Management Programme (EMP) and all referenced documents referred to in Section 2.4.**

No fences, gates or locks may be damaged to obtain access onto a line route. Arrangements must be made in advance to obtain permission for access.

Use of private roads must be arranged in advance. Any damage to private roads must be repaired at the contractor's expense and to the satisfaction of the landowner.

No fires may be lit on private property. If fires are lit on Eskom's property or in the construction camp, provision must be made that no accidental fires are started. No firewood may be collected in the veld.

No trees may be cut or removed without prior permission from the landowner. Permits shall be obtained for protected trees (protected trees shall be dealt with in special conditions)

5.1.6 Title to materials from demolition and excavation

The *Contractor* has no such title. All equipment and materials dismantled to be stored inside the *Contractor's* site camp. Disposal of this equipment and materials to be liaise with the Officer Investment Recovery – Mr Roelof Venter at 043-7032290.

5.1.7 Cooperating with and obtaining acceptance of Others

The *Contractor* is responsible to ensure that the landowners and/or local authority have been informed before any work is carried out on site. It is also the *Contractor's* responsibility to maintain a good relationship with the landowners and to ensure that the following procedures are in place:

- 1) Access arrangements to the property
- 2) Allowable construction times on the property to be agreed and documented

5.1.8 Publicity and progress photographs

Photographs can be captured to provide evidence with supporting documentation where applicable. These photographs shall have date and time stamps to be eligible for use.

5.1.9 *Contractor's* Equipment

The *Contractor* is to provide equipment necessary to complete the *Works* safely and by the *completion date*. An equipment asset register is to be kept on site record is to be kept on site.

5.1.10 Equipment provided by the *Employer*

None

5.1.11 Site services and facilities

The *Contractor* shall provide on *Site* a minimum of one well illuminated, insulated and ventilated *site* office for utilisation by the *Employer / Project Manager* or their representatives. This *site* office shall have as a minimum the following:

- A Suitable water supply and sanitary facilities (chemical toilet).
- First aid facilities
- Telecommunication facilities (down loading of electronic communications and printing of it)
- Access to Eskom website to download latest information.
- 1 x Table, 10 x chairs required and a suitable office required to hold a site meeting.
- Site diary.

5.1.12 Facilities provided by the *Contractor*

Material Storage Area

The *Contractor* shall provide a secure fenced-in yard for the whole of the contract period. Storage facilities must be of such a nature that all the *Contractors* materials, including free issue materials (Employers materials) are safe from theft, fire hazards and vandalism. Fire breaks around the storage area, and fire-fighting equipment must be in accordance with the OHS Act, and of sufficient capacity to ensure the security of stored materials.

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

To be negotiated and agreed with the approval of the community liaison officer where applicable.

5.1.14 Survey control and setting out of the *works*

The *Contractor* must appoint an approved contract surveyor to assist with the setting out of all substation equipment and foundation positions. The appointed surveyor must provide feedback to the PE after setting out to ensure all possible problems with regards to obstacles, clearances are highlighted.

5.1.15 Excavations and associated water control

Refer to the Detailed Project Specifications in the approved Detailed Design Package/Final Design Package document. No excavations should be left open or unattended. If the *Contractor* encounters any rock during excavation, he/she must inform the Clerk of Works first to come and verify before he/she can use a mechanical boring device, drilling, compressor, or blasting and requires the approval of associated costs from the Quantity Surveyor.

5.1.16 Underground services, other existing services, cable and pipe trenches and covers

The *Contractor* shall be held liable for any damages caused during construction to existing services such as, underground water pipes, electrical cables, telecommunication cables, overhead lines, storm water pipes and existing roads.

It is the responsibility of the *Contractor* to contact the landowner and/or local authority to determine the position of such services to prevent any damages.

5.1.17 Control of noise, dust, water and waste

The *Contractor* shall within reason try and keep noise levels, dust and wastage to a minimum.

5.1.18 Sequences of construction or installation

As per the approved construction programme and in conjunction with the Quality Control Plan.

5.1.19 Giving notice of work to be covered up

The Project Manager/Clerk of Works shall always be notified.

5.1.20 Hook ups to existing works

As per approved FDP. All safety requirements shall be observed.

5.2 Completion, testing, commissioning and correction of Defects

5.2.1 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.

	Item of work	To be completed by
	As built drawings of	Within _____ days after Completion
	Performance testing of the <i>works</i> in use as specified in paragraph _____ of this Works Information.	See performance testing requirements.

The whole of the *Works* as described by the *Works Information* of this contract and in the Final Design package shall be completed on or before the *Completion Date*. Completion includes the completion and submission of hand-over documentation, as-built drawings, and completed defect lists. The *Contractor* pays delay damages for late completion in terms of the *Conditions of Contract*. Should the Contractor receive 3 non-conformances, preventative actions and corrective actions, Eskom reserves the right to terminate the Task order/Purchase order.

Outages & Commissioning

The contractor will prepare the scope of works required for the planned outage at each stage before the outage date. On the day of the outage, the required scope of work at this point is to be completed, checked and handed over to the TSC with the required handover documentation.

5.2.2 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* then a *Sectional completion Certificate* shall be issued to the *Contractor*.

5.2.3 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 goods being supplied

5.2.4 Commissioning

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

5.2.5 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.

5.2.6 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.

5.2.7 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.

5.2.8 Performance tests after Completion

The *Contractor* will perform all tests required to bring the asset to service.

5.2.9 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*.

5.2.10 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*.

6 List of drawings

6.1 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.

Drawing number	Revision	Title

PART 4: SITE INFORMATION

Document reference	Title	No of pages
	This cover page	[1]
C4	Site Information	[2]
	Total number of pages	[3]

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.

Delete this note and others given in boxes like this one at final draft stage.

The compiler of this document should first consult the ECC3 2013 Guidance Notes page 24. Further notes are given under each heading below.

Site Information is information about the Site at the time of tender upon which the tendering contractor bases his prices. It is fixed and does not include anything about what happens on the Site after award; that is Works Information.

Site Information does not include weather data; that is included in the Contract Data.

If the *Contractor* subsequently encounters conditions which are different to those described here, he may be entitled to notify a compensation event.

1. General description

Provide a general description of the Site and its location. Reference would probably be made to a drawing showing the Site and its surroundings and the *boundaries of the site* as required by the Contract Data. It is particularly important that details of surrounding buildings be provided where crane operation is likely to be affected, or the *works* involve deep foundations adjacent to existing buildings.

GPS Cords : the entrance to Ravinia Township

33°49'41.3"S 23°52'42.6"E

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. No 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

GENERAL SPECIFICATIONS

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	32-136	0	Contractor Health and Safety Requirements	SPEC	YES
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 10 of 1998	SPEC	No

			Project Specific Documentation:		
A33		0	Final Design Package & drawings – will be provided electronically at tender clarification meeting	FDP	Yes
A34		0	Environmental Documents: <ul style="list-style-type: none"> • ENVIRONMENTAL MANAGEMENT PLAN 	SPEC	Yes
A35		0	SHE SPECIFICATION FOR SUBSTATION PROJECTS	SPEC	Yes

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