



NEC3 Engineering & Construction Contract

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

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

for **Design and Construction of Electric Vehicle
Charging Infrastructure System at Various Eskom
Power stations**

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

CONTRACT No. [Insert at award stage]

Part C1: Agreements & Contract Data

Contents:	No of pages
C1.1 Form of Offer and Acceptance	[•]
[to be inserted from Returnable Documents at award stage]	
C1.2a Contract Data provided by the <i>Employer</i>	[•]
C1.2b Contract Data provided by the <i>Contractor</i>	[•]
[to be inserted from Returnable Documents at award stage]	
C1.3 Proforma Guarantees	[•]

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:

Design and Construction of Electric Vehicle Charging Infrastructure System at Various Eskom Power stations.

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

By the representative of the tenderer, deemed to be duly authorised, signing this part of this Form of Offer and Acceptance the tenderer offers to perform all of the obligations and liabilities of the *Contractor* under the contract including compliance with all its terms and conditions according to their true intent and meaning for an amount to be determined in accordance with the *conditions of contract* identified in the Contract Data.

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

This Offer may be accepted by the Employer by signing the Acceptance part of this Form of Offer and Acceptance and returning one copy of this document including the Schedule of Deviations (if any) to the tenderer before the end of the period of validity stated in the Tender Data, or other period as agreed, whereupon the tenderer becomes the party named as the *Contractor* in the *conditions of contract* identified in the Contract Data.

Signature(s)

Name(s)

Capacity

**For the
tenderer:**

(Insert name and address of organisation)

Name &
signature of
witness

Date

Tenderer's CIDB registration number (if applicable)

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

Acceptance

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

The terms of the contract, are contained in:

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

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

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

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

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

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

Signature(s)

Name(s)

Capacity

**for the
Employer**

(Insert name and address of organisation)

Name &
signature of
witness

Date

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

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

Note:

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

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

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

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

	For the tenderer:	For the Employer
Signature	_____	_____
Name	_____	_____
Capacity	_____	_____
On behalf of	(Insert name and address of organisation)	(Insert name and address of organisation)
Name & signature of witness	_____	_____
Date	_____	_____

C1.2 ECC3 Contract Data

Part one - Data provided by the *Employer*

[Instructions to the contract compiler: (delete these two notes in the final draft of a contract)]

1. Please read the relevant clauses in the conditions of contract before you enter data. The number of the clause which requires the data is shown in the lefthand column for each statement however other clauses may also use the same data.
1. Some ECC3 options are always selected by Eskom Holdings SOC Ltd. The remaining ECC3 options are identified by shading in the left hand column. In the event that the option is not required select and delete the whole row. Where the following symbol is used "[●]" - data is required to be inserted relevant to the specific option selected.]

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	
		A: Priced contract with activity schedule
	dispute resolution Option	W1: Dispute resolution procedure
	and secondary Options	
		X2 Changes in the law
		X7: Delay damages
		X15: Limitation of <i>Contractor's</i> liability for design to reasonable skill and care
		X16: Retention
		X18: Limitation of liability
		Z: <i>Additional conditions of contract</i>
	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
	Represented by	Nonhlanhla Hlangwini
	Tel No.	+27 11 800 8111
	e-mail	HlangwNE@eskom.co.za

10.1	The <i>Project Manager</i> is: (Name)	Ronald Mandavha
	Address	Registered office at Megawatt Park, Maxwell Drive, Sandton, Johannesburg
	Tel	+27 11 516 7881
	e-mail	MandavR@eskom.co.za
10.1	The <i>Supervisor</i> is: (Name)	Mahmood Wadiwala
	Address	Registered office at Megawatt Park, Maxwell Drive, Sandton, Johannesburg
	Tel No.	+27 11 800 5549
	e-mail	WadiwaM@eskom.co.za
11.2(13)	The <i>works</i> are	Design and Construction of Electric Vehicle Charging Infrastructure System at Various Eskom Power stations.
11.2(14)	The following matters will be included in the Risk Register	<ul style="list-style-type: none"> • Weather Conditions • Delays and Disruptions • Community unrest • Labor Unrest • Late Delivery • Stock availability <p>Other to be discussed and addressed during execution where applicable</p>
11.2(15)	The <i>boundaries of the site</i> are	<ul style="list-style-type: none"> - Lethabo Power Station - Komati Power Station - Matimba Power Station - Koeberg Power Station - Sere Wind Farm
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	<ul style="list-style-type: none"> - 1 week for all contractual matters - Within 24 hours for health and safety matters when it arises.
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 works is	30 July 2025

11.2(9)	The <i>key dates</i> and the <i>conditions</i> to be met are:	Condition to be met	key date
		Various Sites As per 11.2 (15)	Programme to be submitted by the Contractor for acceptance
30.1	The <i>access dates</i> are:	Part of the Site	Date
		Various Sites As per 11.2 (15) As per approved Schedule	As per approved Programme
31.1	The <i>Contractor</i> is to submit a first programme for acceptance within	2 weeks of the Contract Date.	
31.2	The <i>starting date</i> is	1 April 2025	
32.2	The <i>Contractor</i> submits revised programmes at intervals no longer than	1 week.	
35.1	The <i>Employer</i> is not willing to take over the <i>works</i> before the Completion Date.		
4	Testing and Defects		
42.2	The <i>defects date</i> is	52 weeks after Completion of the whole of the works per site.	
43.2	The <i>defect correction period</i> is	1 week	
	except that the <i>defect correction period</i> for	Long lead item is 4 weeks	
5	Payment		
50.1	The <i>assessment interval</i> is	As per agreed Assessment Schedule .	
51.1	The <i>currency of this contract</i> is the	South African Rand.	
51.2	The period within which payments are made is	30 days after the Assessment has been completed provided the <i>Contractor</i> has submitted all required documentation timeously.	
51.4	The <i>interest rate</i> is	0%	
6	Compensation events		
60.1(13)	The place where weather is to be recorded is:	Weather Station nearest to each site <ul style="list-style-type: none">• Lethabo Power Station -Free state• Komati Power Station - Mpumalanga• Matimba Power Station - Limpopo• Koeberg Power Station- Western Cape• Sere Wind Farm- Western Cape	
	The <i>weather measurements</i> to be recorded for each calendar month are,	the cumulative rainfall (mm) the number of days with rainfall more than 10 mm	

the number of days with minimum air temperature less than 0 degrees Celsius

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

and these measurements:

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:	
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	None
9	Termination	There is no reference to Contract Data in this section of the core clauses and terms in italics used in this section are identified elsewhere in this Contract Data.
10	Data for main Option clause	
A	Priced contract with activity schedule	There is no reference to Contract Data in this Option and terms in italics are identified elsewhere in this Contract Data.
11	Data for Option W1	
W1.1	The <i>Adjudicator</i> is	the person selected from the ICE-SA Division (or its successor body) of the South African Institution of Civil Engineering Panel of Adjudicators by the Party intending to refer a dispute to him. (see www.ice-sa.org.za). If the Parties do not agree on an Adjudicator the Adjudicator will be appointed by the Arbitration Foundation of Southern Africa (AFSA).
W1.2(3)	The <i>Adjudicator nominating body</i> is:	the Chairman of ICE-SA a joint Division of the South African Institution of Civil Engineering and the London Institution of Civil Engineers. (See www.ice-sa.org.za) or its successor body.
W1.4(2)	The <i>tribunal</i> is:	arbitration.
W1.4(5)	The <i>arbitration procedure</i> is	the latest edition of Rules for the Conduct of Arbitrations published by The Association of Arbitrators (Southern Africa) or its successor body.
	The place where arbitration is to be held is	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	
X7.1	Delay damages for Completion of the whole of the <i>works</i> are	<p>1% of the total price of each activity up to a maximum of 10% of the specific activity per site</p> <p>Each delay incident will be assessed on its merit. The early warning process shall be used to communicate all delays. The Liquidated damages in the activity schedule shall be subject to a grace period of 7 days</p>
X15	Limitation of the <i>Contractor's</i> liability for his design to reasonable skill & care	There is no reference to Contract Data in this Option and terms in italics are identified elsewhere in this Contract Data.
X16	Retention (not used with Option F)	
X16.1	The <i>retention percentage</i> is	<p>10% retention.</p> <p>4% will be released on project completion, 2% link to SD&L being met, and another 4 % on completion of the defect period.</p>
X18	Limitation of liability	
X18.1	The <i>Contractor's</i> liability to the <i>Employer</i> for indirect or consequential loss is limited to:	R0.0 (zero Rand)
X18.2	For any one event, the <i>Contractor's</i> liability to the <i>Employer</i> for loss of or damage to the <i>Employer's</i> property is limited to:	the amount of the deductibles relevant to the event
X18.3	The <i>Contractor's</i> liability for Defects due to his design which are not listed on the Defects Certificate is limited to	<p>The greater of</p> <ul style="list-style-type: none"> the total of the Prices at the Contract Date and the amounts excluded and unrecoverable from the <i>Employer's</i> assets policy for correcting the Defect (other than the resulting physical damage which is not excluded) plus 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.

		<p>The <i>Contractor's</i> total liability for the additional excluded matters is not limited.</p> <p>The additional excluded matters are amounts for which the <i>Contractor</i> is liable under this contract for</p> <ul style="list-style-type: none"> • Defects due to his design which arise before the Defects Certificate is issued, • Defects due to manufacture and fabrication outside the Site, • loss of or damage to property (other than the <i>works</i>, Plant and Materials), • death of or injury to a person and • infringement of an intellectual property right.
X18.5	The <i>end of liability date</i> is	<p>(i) 1 year after the <i>defects date</i> for latent Defects and</p> <p>(ii) the date on which the liability in question prescribes in accordance with the Prescription Act No. 68 of 1969 (as amended or in terms of any replacement legislation) for any other matter.</p> <p>A latent Defect is a Defect which would not have been discovered on reasonable inspection by the <i>Employer</i> or the <i>Supervisor</i> before the <i>defects date</i>, without requiring any inspection not ordinarily carried out by the <i>Employer</i> or the <i>Supervisor</i> during that period. If the <i>Employer</i> or the <i>Supervisor</i> do undertake any inspection over and above the reasonable inspection, this does not place a greater responsibility on the <i>Employer</i> or the <i>Supervisor</i> to have discovered the Defect.</p>
Z	The <i>Additional conditions of contract</i> are	Z1 to Z15 always apply.
Z1	Cession delegation and assignment	
Z1.1	The <i>Contractor</i> does not cede, delegate or assign any of its rights or obligations to any person without the written consent of the <i>Employer</i> .	
Z1.2	Notwithstanding the above, the <i>Employer</i> may on written notice to the <i>Contractor</i> cede and delegate its rights and obligations under this contract to any of its subsidiaries or any of its present divisions or operations which may be converted into separate legal entities as a result of the restructuring of the Electricity Supply Industry.	
Z2	Joint ventures	
Z2.1	If the <i>Contractor</i> constitutes a joint venture, consortium or other unincorporated grouping of two or more persons or organisations then these persons or organisations are deemed to be jointly and severally liable to the <i>Employer</i> for the performance of this contract.	
Z2.2	Unless already notified to the <i>Employer</i> , the persons or organisations notify the <i>Project Manager</i> within two weeks of the Contract Date of the key person who has the authority to bind the <i>Contractor</i> 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 employees of the <i>Contractor</i> arising out of and in the course of their employment in connection with this contract	The amount required by the applicable law

Z 13.2

Replace core clause 87 with the following:

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

INSURANCE TABLE B

Insurance against or name of policy	Minimum amount of cover or minimum limit 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 47 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 47 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.

C1.2 Contract Data

Part two - Data provided by the *Contractor*

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

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

Notes to a tendering contractor:

1. Please read both the NEC3 Engineering and Construction Contract (April 2013) and the relevant parts of its Guidance Notes (ECC3-GN)² 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:	

² Available from Engineering Contract Strategies Tel 011 803 3008, Fax 011 803 3009 or see www.ecs.co.za

		CV's (and further key persons data including CVs) are appended to Tender Schedule entitled .
11.2(3)	The <i>completion date</i> for the whole of the <i>works</i> is	
11.2(14)	The following matters will be included in the Risk Register	
11.2(19)	The Works Information for the <i>Contractor's</i> design is in:	
31.1	The programme identified in the Contract Data is	
A	Priced contract with activity schedule	
11.2(20)	The <i>activity schedule</i> is in	(in figures) (in words), excluding VAT
11.2(30)	The tendered total of the Prices is	

PART 2: PRICING DATA

ECC3 Option A

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

C2.1 Pricing assumptions: Option A

How work is priced and assessed for payment

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

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

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

Function of the Activity Schedule

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

Link to the programme

Clause 31.4 states that "The *Contractor* provides information which shows how each activity on the Activity Schedule relates to the operations on each programme which he submits for acceptance". Ideally the tendering contractor will develop a high level programme (Level III) first, then resource each activity (individually) and then collate to arrive at the lump sum price for each activity, both of which shall be entered into the *activity schedule*.

Preparing the *activity schedule*

The tenderer/ contractor prepares the *activity schedule* by breaking down the work described within the Works Information into practice activities that must be well defined, shown on a programme and priced as a lump sum.

The *Employer*, in his Instructions to Tenderers or in a Tender Schedule, may have listed some items that he requires the *Contractor* to include in his *activity schedule* and be priced accordingly.

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

- Has taken account of the guidance given in the ECC3 Guidance Notes pages 19 and 20;
- Understands the function of the Activity Schedule and how work is priced and paid for;
- Is aware of the need to link the Activity Schedule to activities shown on his programme;
- Has listed and priced activities in the *activity schedule* which are inclusive of everything necessary and incidental to Providing the Works in accordance with the Works Information, as it was at the

- time of tender, as well as correct any Defects not caused by an *Employer's* risk;
- Has priced work he decides not to show as a separate activity within the Prices of other listed activities in order to fulfil the obligation to complete the *works* for the tendered total of the Prices.
 - Understands there is no adjustment to the lump sum Activity Schedule price if the amount, or quantity, of work within that activity later turns out to be different to that which the *Contractor* estimated at time of tender. The only basis for a change to the Prices is as a result of a compensation event.

C2.2 the *activity schedule*

<u>Item No</u>	<u>Description</u>	<u>Unit</u>	<u>Qty</u>	<u>Rate</u>	<u>Amount</u>
	<u>DESIGN AND CONSTRUCTION OF AN EV CHARGER</u>				
	<u>Koeberg Power Station</u>				
	Dual EV Charging Station				
	Electrical Infrastructure and Electrical Upgrades				
	Structured Double Carport (Covered)				
	Training				
	EV Charging Station Service and Maintenance				
	Sub-Total A				
	<u>Matimba Power Station</u>				
	Dual EV Charging Station				
	Electrical Infrastructure and Electrical Upgrades				
	Structured Double Carport (Covered)				
	Training				
	EV Charging Station Service and Maintenance				
	Sub-Total B				
	<u>Komati Power Station</u>				
	Dual EV Charging Station				
	Electrical Infrastructure and Electrical Upgrades				
	Structured Double Carport (Covered)				
	Training				
	EV Charging Station Service and Maintenance				
	Sub-Total C				
	<u>Lethabo Power Station</u>				
	Dual EV Charging Station				
	Electrical Infrastructure and Electrical Upgrades				
	Structured Double Carport (Covered)				
	Training				
	EV Charging Station Service and Maintenance				
	Sub-Total D				

	<u>Sere Wind Farm</u>				
	Dual EV Charging Station				
	Electrical Infrastructure and Electrical Upgrades				
	Structured Double Carport (Covered)				
	Training				
	EV Charging Station Service and Maintenance				
	Sub-Total E				
	Total Carried to Form of Tender (Excluding VAT)				

<u>Item No</u>	<u>Description</u>	<u>Unit</u>	<u>Qty</u>	<u>Rate</u>	<u>Amount</u>
	<u>DESIGN AND CONSTRUCTION OF AN EV CHARGER</u>				
A	<u>DUAL EV CHARGING STATION</u>				
A1	<u>Design, supply, installation, commissioning and testing of a dual electric vehicle charging station complete with all necessary cabling, connections, trunking, conduits, sleeves, connectors, earthworks, demolitions, alterations, reinstatement works, platform, fittings, sundries, COC's, etc. as per the Works Information complete</u>				
A1.1	Koeberg Power Station	No	1		
A1.2	Matimba Power Station	No	1		
A1.3	Komati Power Station	No	1		
A1.4	Lethabo Power Station	No	1		
A1.5	Sere Wind Farm	No	1		
B	<u>ELECTRICAL INFRASTRUCTURE AND ELECTRICAL UPGRADES</u>				
B1	<u>Design, supply, installation, commissioning and testing of electrical infrastructure upgrades as required at mini-substations, new-mini-substations, DB's, switchgears, new equipment, new double carport lighting and sensors, cabling, connections, trunking, conduits, sleeves, connectors, earthworks, reinstatement works, fittings, sundries, COC's, etc as per the Works Information complete</u>				
B1.1	Koeberg Power Station	No	1		
B1.2	Matimba Power Station	No	1		
B1.3	Komati Power Station	No	1		
B1.4	Lethabo Power Station	No	1		
B1.5	Sere Wind Farm	No	1		

C	<u>STRUCTURED DOUBLE CARPORT (COVERED)</u>				
C1	<u>Design, supply, installation, refurbishment and construction of a structured double carport (covered) on grade all-inclusive of demolitions, alterations, earthworks, layer works, asphalt works, concrete works, jointing, precast concrete block paving, kerbing, paintwork, signage, road markings, including a complete painted structured double steel carport with structural steelwork and roof coverings, etc as per the Works Information complete</u>				
	Carried Forward				
	Brought Forward				
C1.1	Koeberg Power Station	No	1		
C1.2	Matimba Power Station	No	1		
C1.3	Komati Power Station	No	1		
C1.4	Lethabo Power Station	No	1		
C1.5	Sere Wind Farm	No	1		
D	<u>TRAINING</u>				
D1	<u>Training: Allow for a training course to train on-site of persons, as nominated by the end-user from his own operating personnel, as stated in the Works Information, etc.</u>				
D1.1	Koeberg Power Station	No	1		
D1.2	Matimba Power Station	No	1		
D1.3	Komati Power Station	No	1		
D1.4	Lethabo Power Station	No	1		
D1.5	Sere Wind Farm	No	1		

E	<u>EV CHARGING STATION SERVICE AND MAINTENANCE</u>				
E1	<u>EV Charging Station and associated infrastructure service and maintenance as stated in the Works Information, etc.</u>				
E1.1	- Koeberg Power Station	No	1		
E1.2	Matimba Power Station	No	1		
E1.3	Komati Power Station	No	1		
E1.4	Lethabo Power Station	No	1		
E1.5	Sere Wind Farm	No	1		
	Total Carried to Form of Tender (Excluding VAT)				

C3.1: EMPLOYER'S WORKS INFORMATION

Contents

Part 3: Scope of Work.....	28
C3.1: Employer's works Information	29
1 Description of the <i>works</i>	31
2 Executive overview	31
3 <i>Employer's</i> objectives and purpose of the <i>works</i>	31
4 Interpretation and terminology	31
5 Management and start up.	32
6 Documentation control.....	33
7 Health and safety risk management	33
8 Environmental constraints and management	35
9 Quality assurance requirements	35
10 Programming constraints	35
11 Invoicing and payment	36
12 Insurance provided by the <i>Employer</i>	36
13 Engineering and the <i>Contractor's</i> design	36
14 <i>Employer's</i> design	36
15 Parts of the <i>works</i> which the <i>Contractor</i> is to design	36
16 Procedure for submission and acceptance of <i>Contractor's</i> design.....	36
16.1 Review process	36
16.2 Time Required for Acceptance of Designs	37
17 Other requirements of the <i>Contractor's</i> design	37
17.1 Detail Design Phase	37
17.2 Detail Design Freeze	37
17.3 Implementation Phase.....	38
17.4 Configuration Management	38
17.5 Warrantee period	39
18 Use of <i>Contractor's</i> design	39
19 Equipment required to be included in the <i>works</i>	39
20 As-built drawings, operating manuals and maintenance schedules	39
20.1 General	39
20.2 Drawings	39
20.3 Maintenance and operating manuals	40
21 Supplier Development, Localisation and Industrialisation	41
22 Plant and Materials.....	41
22.1 Quality.....	41
22.2 <i>Contractor's</i> procurement of Plant and Materials	41
22.3 Spares and consumables	41
23 Tests and inspections before delivery	42
23.1 Factory acceptance testing (FAT)	42
24 <i>Contractor's</i> Equipment (including temporary works).	42
25 Construction.....	42
25.1 <i>Employer's</i> Site entry and security control, permits, and Site regulations	42
25.2 Restrictions to access on Site, roads, walkways and barricades	43
25.3 People restrictions on Site; hours of work, conduct and records	43
25.4 <i>Contractor's</i> Equipment	43
25.5 Equipment provided by the <i>Employer</i>	43
25.6 Site services and facilities	43
25.6.1 Electricity Supply for Construction.....	43
25.6.2 Water Supply	43
25.6.3 Area for Site establishment and Storage.....	44
25.6.4 Sanitary facilities.....	44
25.6.5 Office Space	44

25.6.6	Telecommunications.....	44
25.6.7	Facilities provided by the Contractor.	44
25.6.8	Existing premises, inspection of adjoining properties and checking work of Others.....	44
25.6.9	Survey control and setting out of the works	44
25.6.10	Excavations and associated water control.....	44
25.6.11	Underground services, other existing services, cable and pipe trenches and covers	44
25.6.12	Sequences of construction or installation	44
26	Completion, testing, commissioning and correction of Defects	45
26.1	Work to be done by the Completion Date	45
26.2	Materials facilities and samples for tests and inspections.....	45
26.3	Commissioning	45
26.4	Site Acceptance Tests.....	45
26.5	Cold Commissioning Tests.....	46
26.6	Hot Commissioning Tests.....	46
26.7	Start-up procedures required to put the works into operation	46
26.8	Take over procedures.....	46
26.9	Access given by the Employer for correction of Defects	46
26.10	Performance tests after Completion	46
27	Training and technology transfer.....	46
27.1	General	46
27.2	Training Requirements	46
27.3	Training Documentation	47
27.4	Operational maintenance after Completion.....	47
28	Investigation, survey and Site clearance	47
29	List of drawings	48
29.1	Drawings issued by the Employer	48
C3.2	<i>Contractor's Works Information</i>	Error! Bookmark not defined.
Part 4:	Site Information	49
Part 4:	Site Information	50

1 Description of the works

2 Executive overview

Generation Business has initiated a project to replace its Internal Combustion Engine (ICE) fleet of vehicles with Electrical Vehicles (EVs) and to install charging stations across the generation Power Stations and Peaking Stations in a sustainable and cost-effective manner. It has been noted that the EV technology has not fully matured when compared to ICE vehicles in terms of availability, performance, service centres and availability of charging stations along the Power Station routes. Koeberg, Matimba, Komati, Lethabo Power Stations and Sere Wind Farm have been selected to be part of the pilot phase. The objective for pilot phase is to gather data necessary for performance assessment and cost analysis to ensure successful rollout of EV across the business.

The vehicle categories selected for pilot phase on selected Power Stations is a mixture of 3 x Battery Electric Vehicle (Sedan, Minibus and Light Delivery Vehicle i.e Bakkie 4x2 or 4x4) and 1 x Plug-in Hybrids (petrol / diesel + batteries i.e Sedan SUV) Per site. The pilot phase will also implement a charging station with a combination of Level 2 and Level 3 Charger with the following specifications:

The charger combo for pilot phase shall consist of 2 x 60kW DC with CCS2 connector type as well 1 x 22kW AC with type 2 connector and the combo charger shall be supplied from a 400V AC, three phase, 250A power supply. The charger shall be able to charge 2 x Electric Vehicles at the same time and shall be located between two (2) parking bays. The two (2) parking bays must remain free to allow charging without any disturbances.

The *Contractor* makes available a supply point of connection, and the power supply shall be sufficient to provide power for the installation of the EV charging station. The *Contractor* designs, supply and install a suitable adequately rated cable from the point of Supply to the charging station. The *Contractor* installs an EV charging station at a suitable position to charge two EV simultaneously. Install/Refurbish the existing carports and extend the carport to provide protection to the EV charger and personnel against adverse weather conditions. The *Contractor* provides all civil and building work for a functional EV charging station.

The *Works* make provision for the detail design, manufacturing, factory acceptance tests, packaging, transportation and off-loading of the equipment for installation, site acceptance testing and commissioning of the *Works*. The *Works* are done as per the *Employer's* technical specifications as stipulated in document 474-13553 Technical Specification for the Procurement of Electric Vehicles Charging Infrastructure at Koeberg PS, Matimba PS, Komati PS, Lethabo PS and Sere Wind Farm.

3 Employer's objectives and purpose of the works

The *Employer's* objective is to install an EV charging system and the Works are completed within allocated time frames by the *Contractor*.

The purpose of the Works is to ensure a reliable, maintainable, designed to specification, fully functional EV charging system.

This document specifies the *Contractor's* minimum requirements for engineering work, decommissioning, detail design, drawings, procurement, manufacture, inspect and test, factory acceptance tests, quality control & assurance, supply, delivery, installation, commissioning, testing and handing over of the EV Charging system.

4 Interpretation and terminology

The following abbreviations are used in this Works Information:

Definition	Description
as built	The Project Manager or Supervisor certifies that this drawing is checked against the actual wiring of the corresponding circuit in the Plant and Material as correct after final hot commissioning is completed.

as commissioned	The Project Manager or Supervisor certifies that this drawing is checked against the actual wiring and functional operation of the corresponding circuit in the Plant and Material as correct after installation and cold commissioning is completed.
as manufactured	the <i>Contractor</i> certifies that this drawing is checked against the actual wiring of the corresponding circuits in Plant and Material as correct after factory acceptance testing.
Busbar	A busbar to which one or several distribution busbars and/or incoming and outgoing units can be connected.
Charging Infrastructure	A system of charging stations or facilities to recharge electric vehicles
Electric Vehicles	Vehicles that use electricity as a source of power and electric motors for moving.
Feeder	Feeder in the power station context means a line or cable to the substation, power station or switchboard.
Guarantee inspection and testing	Guarantee inspection and testing takes place at the time when the guarantee period elapses, and the OEM then needs to conduct

5 Management and start up.

Meetings will be held weekly between the Project Manager and the *Contractor*, and any person instructed by the Project Manager to attend. The *Contractor* is represented at each meeting by the appropriate member of the staff. Additional ad hoc meetings may also be called to address urgent issues. The venue for these meetings is as determined by the Project Manager.

The Project Manager will, as and when necessary, require the *Contractor* to attend meetings with *Other Contractors* on the Project. This requirement does not constitute a compensation event.

The Contractor reports the overall progress and as a minimum requirement, the following is addressed:

1. *Contractor's* current activity progress and planned finish dates
2. *Contractor's* planned start and finish dates for the works
3. *Contractor's* and Project Manager's programme agenda compared for problematic differences
4. Current and projected manpower by class
5. Health, safety and quality control issues
6. The progress of any other relevant activities
7. To discuss any technical or commercial issues
8. Problem areas or concerns

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

Meetings Schedule

Title and purpose	Approximate time & interval	Location	Attendance by:
Risk register and compensation events	Weekly	Venue determined By the <i>Project Manager</i>	Relevant appointed members of a Risk or and Compensation event committee
Overall contract progress and feedback	weekly	Venue determined By the <i>Project Manager</i>	<i>Employer, Contractor, Supervisor, and Others</i> as determined by the <i>Project Manager</i>

Safety Meetings	Monthly	Venue determined By the <i>Project Manager</i>	<i>Employer, Contractor, Supervisor Safety Officers and Others as determined by the Project Manager</i>
Outage meetings (including integration meetings with <i>Others</i>)	Daily During outage	Venue determined By the <i>Project Manager</i>	<i>Employer, Contractor, Supervisor, and Others as determined by the Project Manager</i>

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 and Action Items, including an attendance 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.

6 Documentation control

The *Contractor* implements a comprehensive document management system for the control of all documents, revision status “as-designed”, “as-manufactured”, “as-commissioned” and “as-built” plant status for the EV Charging system. In this regard the *Contractor* ensures that the documentation supplied to the Project Manager as tie-in information, accurately reflects the Contract requirements.

The *Contractor* submits all documentation on a formal transmittal form to the Project Manager. All correspondence is sequentially numbered. All documentation and drawings standards to comply with the latest 240-86973501 - Eskom’s Engineering Drawing Standard Common Requirements; 240-54179170: Classification and designation of technical documentation and Documentation Management Standard, 32-644 and respectively.

The documentation and drawings supplied is in South African English and SI units are used. The *Employer* does not accept scanned electronic copies of documentation or drawings; however, the original documentation with signature is scanned for electronic purposes.

The documentation is submitted in loose leaf binders to ISO format and normally A4 size. The use of oversize pages is kept to a minimum and does not exceed page height of an A4 unfolded. Fixings are “D” ring and are of the snap close type. Post binders or other fixings are not acceptable. Binders do not exceed 80 mm in overall thickness. The document identity appears on both the front cover and on the spine.

Documentation is of good quality, prepared by suitably qualified personnel and contain the general arrangement drawings, installation drawings and instructions, operating and maintenance instructions for all components.

Detailed parts lists are accompanied by exploded view type unitised drawings clearly detailing the part, technical descriptions of the plant and material and component parts, spare part ordering instructions and type test certificates.

7 Health and safety risk management

The *Contractor* shall comply with the Health and Safety requirements contained in the following rules and procedures:

- 1) 240-62196227 Life Saving Rules
- 2) 32-727 SHEQ Policy
- 3) 32-726 SHE Requirements for Eskom Commercial Process
- 4) 240-62946386 Driver and Vehicle Safety Management Procedure
- 5) 240-73418055 SHE Specification

The *Contractor* shall comply with the health and safety requirements contained in OHS Specification and the approved safety file. *Employer* reserves the right to review the OHS Specification to address the Operational risks and the *Contractor* shall comply with the latest SHE Specification as amended at no cost. The OHSACT 37(2) agreement must be signed by *Employer* and *Contractor's* representatives.

The *Contractor* OHS professional must conduct internal audits at planned intervals to monitor compliance to the contractual health and safety requirements. The *Employer* representatives will conduct inspections at planned intervals to monitor compliance to the contractual health and safety and legal requirements. The *Contractor* may be selected during internal and/or external Eskom Power Station audits to verify compliance to legal and contractual OHS requirements. The Contract Custodian will communicate this at relevant time periods and the contractor shall avail themselves for this audit.

Below are minimum Safety requirements to be adhered to by contractors/service providers, to gain access to Eskom Power Stations:

- 1 Valid Medical fitness certificate
- 2 Clearance from SAPS or accredited service provider linked to SAPS AFIS system not older than thirty (30) days
- 3 Identification document (RSA ID or equivalent)
- 4 National Drivers Licence (applicable to drivers)
- 5 Adherence to the Eskom Life-saving rules 3 Buckle up and 4, Be Sober
- 6 Applicable risk based Personal Protective Equipment
- 7 Valid letter of good standing (COIDA or equivalent). Access to site to perform work will be denied should the Letter of good standing be expired.

The *Contractor* who is working alone and not eligible to register with the compensation fund, shall provide Eskom with the member benefit statement of the insurance cover which include life and disability cover to the minimum fund of R500 000.

Induction will only be done after the above documents have been submitted and accepted by *Employer* representative. *Contractor* provider Management Key Performance Indicators (KPI's)

1. Maintain Health and Safety file and compliance to the health and safety plan, Eskom OHS specification and applicable legislation as amended.
2. Always maintain good housekeeping where the task is being executing and/or within the area of responsibility.
3. Contractor must develop, implement and monitor near miss reporting strategy/ programme (reporting of near misses).
4. Comply to Planned Job Observation, BSO, Visible Felt Leadership programmes.
5. Maintain Zero Fatalities for the duration of the contract.
6. At any given point, the OHS performance must be within the lost time injury (LTI) tolerance level as amended.
7. All incidents must be reported immediately or before the end of shift that the incident took place.
8. All incident investigations must be completed within 10 days of the occurrence of an incident.
9. Incident investigation recommendations shall be closed within the recommended time frame recorded in the Incident investigation report.
10. Close audit findings as per the recommended time frames as per audit report or action raised in SAP QIM.
11. Close Non-conformance as per the recommended time frames in SAP QIM.

Note: Monitoring of the above mentioned KPI's will take place through regular audits and inspection.

On completion of the project/contract, Eskom team (led by the Contract custodian) involved in the project together with the Contractor shall conduct the final meeting to identify the gaps prior to the contract close out. Before the final invoice is paid/processed, the Contract custodian shall ensure that the below requirements are met:

1. Close all incidents and audit findings.
2. Clean the respective yard and ensure good housekeeping where the contractor was working.
3. Contractor shall submit safety statistics and a safety file to Eskom BU Safety department for closeout and filling.
4. Completion of a closeout report (Annexure D form as per 32-726) to close the contractual work.

The function of the 37(2) Agreement is primarily to indemnify *Employer* from any acts or omissions by its *Contractors* and its employees in contravention of the OHS Act.

This means that contractors/suppliers are deemed to be employers, their employees are not deemed to be employees of Eskom and acknowledges that is solely responsible for its employees, its appointed contractors, agents and the like, while performing work for or on behalf of Eskom.

Every site where the *Contractor* is performing work, a 37(2) agreement shall be signed by the *Employers* representative and the *Contractor* representative 16(1)/2 appointee.

8 Environmental constraints and management

The *Contractor* is required to ensure that all the Works and services conducted in terms of this contract conform to the Eskom SHEQ Policy (32-727) and SHE Requirements for Eskom Commercial Process (32-726).

9 Quality assurance requirements

The *Contractor's* Quality Management System shall comply with the requirements of ISO 9001 (latest applicable edition).

Supplier QM Specification Category 3 Quality requirements shall apply for contract duration.

A quality inspection of the Works and services shall be conducted, at the *Employer's* discretion, by the *Employer* or the *Employer's* representative at various milestones.

10 Programming constraints

The *Contractor* submits as part of its tender response a Level 3 programme which becomes the first Accepted Programme that contains the following as a minimum:

- a) The Key Milestone Dates
- b) The access dates
- c) The detail 'Method Statement' on how the Contractor plans to achieve the Key Milestone Dates and the access dates;
- d) Interface with Others;
- e) Interface with the Employer;
- f) The date of Site establishment;
- g) Show all the critical paths;
- h) The *Contractor* must ensure that his programme contains sufficient float in order for the Contractor to add interface and alignment with the *Employers* and Others;
- i) Other factors, information, methodologies, detail and dates which the *Contractor* believes are necessary for achievement of the interface with Others; Key Dates, Completion Dates and access dates.

The *Contractor* submits a revised programme during the Contract in accordance with time period provided in clause 32.2. This revised programme must contain the following:

- a) All information required as [stated above];
- b) the services and work (programs) of all his Subcontractors and suppliers;
- c) the design schedule;
- d) the construction schedule;
- e) the planning schedule;
- f) the construction and manufacturing schedule;
- g) the commissioning schedule;
- h) The Resource Schedule

The *Contractor* submits an updated programme every week during design, 2 weeks during manufacturing, every week during Installation and commissioning. The updated programme is not a revised programme

submitted in terms of clause 32 of the Contract. Notwithstanding anything to the contrary in the Contract, Works Information or expressed at any meeting or in any minute of a meeting, the Accepted Programme is not altered by the *Employer's* involvement in discussing the updated programme. All references to the requirements for a revised programme will be inferred as references to the requirements for an updated programme.

11 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;

12 Insurance provided by the *Employer*

The insurance policies and procedures will form part of the Contract Data and any reference to this will be contained in the Contract Data.

13 Engineering and the *Contractor's* design

Refer to 474-13553 Technical Specification for the Procurement of Electric Vehicles Charging Infrastructure at Koeberg PS, Matimba PS, Komati PS, Lethabo PS and Sere Wind Farm.

14 *Employer's* design

Refer to 474-13553 Technical Specification for the Procurement of Electric Vehicles Charging Infrastructure at Koeberg PS, Matimba PS, Komati PS, Lethabo PS and Sere Wind Farm

15 Parts of the *works* which the *Contractor* is to design

Refer to 474-13553 Technical Specification for the Procurement of Electric Vehicles Charging Infrastructure at Koeberg PS, Matimba PS, Komati PS, Lethabo PS and Sere Wind Farm

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

16.1 Review process

The *Contractor* is made aware that all documents or designs submitted for review to the Employer for acceptance requires a process of review as stipulated in the Eskom Engineering Change Management Procedure (240-5331402). This process consists of:

- a) Submission of the tender returnable
- b) Technical Evaluation
- c) Contract Award
- d) Submission of Detail Design by *Contractor*
- e) *Employers* Project Design team reviews
- f) Updates Detail Design review by *Contractor*
- g) Detail Design Scope Freeze review

- h) Procurement Schedule of material
- i) Manufacturing of the EV Charger
- j) Factory Acceptance Tests
- k) Delivery Schedule of EV Chargers to each of the 5 Sites,
- l) Installation, Implementation
- m) Commissioning
- n) Handover and Final acceptance by the *Employer*

16.2 Time Required for Acceptance of Designs

Not later than four working weeks after receipt, the Project Manager returns one copy of the drawing marked "Accepted", "Accepted as Noted" or "Not Accepted", as may be appropriate. The notations "Accepted" and "Accepted as Noted" authorize the *Contractor* to proceed with the manufacture of the Plant covered by such drawings subject to the corrections, if any, indicated thereon. Where prints or drawings have "Not been Accepted" or "Accepted with conditions" the *Contractor* makes the necessary revisions on the drawings and submit further copies for acceptance in the same procedure as for the original submission of drawings. The contractor issues the *Employer* with a Design Review Sheet (DRS) to complete with every submission. Every revision shows by number, date and subject in the revision block on the drawing.

17 Other requirements of the Contractor's design

The *Contractor* provides all plant, equipment, materials and services needed to execute all work necessary to fulfil all requirements specified in this scope. Furthermore, the *Contractor makes* provision for the following:

1. All plant materials are new;
2. All electrical installations of 220V and above are performed by a qualified electrician.
3. All new electrical cabling must be certified by the *Contractor's* electrician issuing a certificate to prove that it has been tested;
4. The *Contractor* provides a commissioning engineer during cold and hot commission of the LV system. The commissioning engineer ensures all relevant tests are performed to ensuring a successful handover to the *Employer*;
5. All existing plant interfaces are to be considered and verified during the design;
6. Newly installed equipment shall be labelled and codified according to specified *Employer's* standards;
7. All arrangement drawings, schematics, wiring diagrams, operating and maintenance manuals, plant, equipment, cabling, panels and signals utilises the RDS-PP Key Part and Coding Standard. The system is applied from the design stage and cross referenced to all arrangement drawings, schematics, wiring diagrams, manuals and where practical to spare parts lists/manuals;
8. All codes are unique and verification by the *Employer* is done prior to hand over.
9. The *Contractor* selects the charger from the OEM with a minimum of 5 years in charger manufacturing.

The *Contractor* submits all technical documentation such as bill of materials, wiring diagrams, schematics, drawings and certificates etc. for acceptance by the *Employer* prior to manufacturing of the EV Charger. The *Contractor* submits hardcopies plus an electronic copy of all documentation listed in sections below.

Refer to 474-13553 Technical Specification for the Procurement of Electric Vehicles Charging Infrastructure at Koeberg PS, Matimba PS, Komati PS, Lethabo PS and Sere Wind Farm

17.1 Detail Design Phase

After *Contract Award*, the *Contractor* performs the Detail Design in accordance with *Employer's* requirements presented by Typical Schematic Diagrams and Schedules. The designs are agreed with the *Employer* to achieve Design Freeze status.

17.2 Detail Design Freeze

The *Contractor* submits as a minimum the following data in neat files for acceptance by the *Project Manager* before the Detail Design Freeze status can be declared.

There are different engineering phases where the *Contractor* requires acceptance by the *Employer* before commencing to the next phase. Manufacturing acceptance will only be given to the *Contractor* upon completion of the Detail Design phase. These phases must be accepted by the *Employer* sequentially as listed below;

The *Contractor* submits the following as a minimum to achieve Detail Design phase:

The final accepted drawings of the complete EV Charger system including plant interfaces.

1. Completed Relevant Technical Schedules A and B
2. Deviation Schedule
3. General Arrangement Drawings of the EV Charger and component circuit layout and feeder circuit (this must include all the wire numbers, termination numbers and MCCB size);
4. Component Schedules or Bill of Material
5. Technical Data sheets of components
6. Technical Manuals
7. Test Certificates
8. Cable Schedule according to the *Employer* format;
9. RDS-PP coding, components descriptions, etc;
10. Termination schedules and cabling block diagram;
11. All calculations of all power cable requirements;
12. Design calculations of protection equipment;
13. Preliminary LV MCCB protection settings for commissioning; if available
14. FAT procedure to be used; if available
15. EV Charger Operating philosophy;
16. All system technical and functional descriptions;
17. Design calculations of reinforced concrete plinth;
18. Design calculations of carport structure;
19. Civil engineering drawings

(Note: All the requirements mentioned above in the detail design phases will be used for acceptance)

17.3 Implementation Phase

The *Contractor* submits the following as a minimum to achieve Implementation phase:

1. Completed and signed off FAT defects lists;
2. Two identical sets of marked up drawings to be used for site installation.
3. Completed and signed off FAT test reports;
4. Long lead items delivered to site;
5. Site establishment completed;
6. A complete on-site inspection check list to be completed immediately after delivery;
7. Authorised site acceptance testing procedures;
8. Equipment transporting & off-loading work packages;
9. EV Charger installation work package;
10. Cabling trenching, installation and testing work package;
11. Civil work package; method statement and QCP's
12. Cold Commissioning work packages;
13. Hot Commissioning work packages;
14. All relevant QCP steps signed off by the *Contractor* where applicable

17.4 Configuration Management

All plant codification must be done in terms of the relevant plant Key Part Standard and Coding Standard relevant to each site. Coding of plant are finalised and completed during Detail Design phase and the *Employer* will assign a coding technician who will interact with the *Contractor* in coding the plant. It is the responsibility of the *Contractor* to consistently apply the AKZ codes throughout the rest of the technical documentation.

It is the responsibility of *Contractor* to manufacture and install AKZ coded equipment's labels. Labels are manufactured and installed according to 240-71432150 Plant Labelling Standard. *Contractor* will label all AKZ coded equipment. The *Employers* Coding Technician shall facilitate base-lining of all equipment lists, and only baseline equipment lists shall be used as a basis for the production of labels. The Abbreviation Standard for

Labelling of Plant at Power Stations (GGS0443) and Abbreviation Standard for Chemistry Related Items for Power Stations (GSER/94/Y0005) shall be provided to the Contractor as a reference for the creation of equipment lists. Coding and labelling of components inside electrical panels shall be done by the *Contractor*.

17.5 Warrantee period

1. The *Contractor* clearly states, in writing, the warrantee period on their product and the components supplied.
2. It is to be clearly stated in writing what the limitations in product support are beyond the specified warrantee period and what options are available to be considered as well as the cost involved regarding support beyond the warrantee period;
3. Beyond the warrantee period, the *Contractor* still has the ability to do repairs on faulty components. If this is not possible then the *Contractor* provides an exchange policy to the *Employer* where faulty equipment can be exchanged for new equipment at a discounted price to the *Employer*;
4. During and beyond the warrantee period the faulty equipment **is** to be investigated by the *Contractor* and a failure report provided to the *Employer* stating the reason for failure,
5. The *Contractor* plans for a visual inspection at a time suitable to the Employer, approximately one year after completion date;
6. The *Contractor* inspects the *Works* on or before the defects date and provides the *Employer* with an inspection report;
7. The *Contractor* liaises with the *Employer* three months prior to the defects date to confirm availability of the EV Charger system;

The *Contractor* corrects all defects and latent defects identified before the defects correction period

18 Use of *Contractor's* design

The *Employer* may use and copy the *Contractor's* design for any purpose connected with construction, use, alteration or demolition of the *works*.

19 Equipment required to be included in the *works*

The *Contractor* provides all materials, tools, Equipment and or machinery in order to complete the *Works*.

20 As-built drawings, operating manuals and maintenance schedules

20.1 General

The original as built accepted version of all documents and drawings of the *Works* are handed over to the *Employer*. The *Contractor* provides documentation in the electronic media using Microsoft Office and "searchable" PDF format. The *Employer* allocates numbers to the documentation and drawings which the *Contractor* indicates on the documentation and drawings. The *Contractor* uses pre-approved templates provided by the *Employer* for all documentation and drawings required.

The *Contractor* submits all technical documentation and drawings for acceptance to the *Employer* prior to manufacture. The *Contractor* submits as per Schedule A hardcopy files plus an electronic copy of information on a hard drive of all documentation indicated in the paragraphs to follow.

20.2 Drawings

All drawings comply with the Eskom Engineering Drawing Standard 240-86973501– Common Requirements. In conjunction with the electronic DGN copies the *Contractor* also provides a merged set of *.pdf electronic copies upon first issue and each time drawing updates are required. All drawings are signed and the revisions noted as per Employer's specifications.

All detail design drawings have the pre-approved title blocks and borders as provided by the Employer. The Employer provides samples of the pre-approved title blocks to be used by the Contractor. The *Contractor* completes the title block information as per drawing standard listed. All drawings are submitted to the Project Manager for acceptance.

The *Contractor* produces as build drawings within 4 weeks of site acceptance tests and submits to the Project Manager for his acceptance.

The *Contractor* produces the following types of drawings where applicable:

- a. Cover sheet
- b. Index sheet
- c. List of symbols
- d. List of components with values, tolerances, ratings, type numbers, purchasing specification numbers, manufacturer and circuit reference numbers
- e. General layout drawing of the proposed panels,
- f. Single line diagram,
- g. Block diagram of the system,
- h. Panel internal wiring drawing, including cross referencing with wire numbers
- i. Termination schedule (all connections are specified)
- j. Cable block diagrams where required,
- k. Updated redlined drawings of the *Employer* as per 7.2.

The *Contractor* is liable for updating drawings until the drawings reflect the as built status of the plant after the final commissioning of the last unit when the Employer has signed off and accepted the final "As Built" state of the drawings.

At Hand-over the *Contractor* provides two full sets of as-built documentation to the *Employer*. All documentation, including reports, manuals, etc. is in the English language.

20.3 Maintenance and operating manuals

1. All manuals are specific to EV Project.
2. All design information forming part of the Technical Specification is included in the manuals.
3. All documentation including drawings, operating and maintenance instruction manuals is uniquely identified and cross-referenced with all related documents.
4. The manuals are complete with:
 - a) Power station name and order number;
 - b) Content list;
 - c) List of reference drawings;
 - d) Details of all components.
5. The *Contractor* ensures that the manuals/files are complete making use of the following information represented as a minimum:
 - a) Details and descriptions of all hardware and software
 - b) Design calculation sheets
 - c) Settings and configurations sheets
 - d) Detailed product descriptions and features
 - e) System control philosophy
 - f) System parameters and models
 - g) Datasheets of all components used
 - h) Recommended spares lists
 - i) Operating, maintenance and testing requirements
 - j) Full system maintenance program
 - k) Installation procedures of each component
 - l) Alarm descriptions and responses procedures
 - m) Tests certificates
 - n) Certificates of compliance to international standards
 - o) Routine test results reports
 - p) Commissioning test results reports

- q) Training information
- r) Technical tender submission information
- 6. Any special instructions pertaining to storage of spare parts or to their shelf life are included in the manual.
- 7. All drawings required for component location, dismantling, and re-assembly for maintenance is provided in the manual.
- 8. All special tools required for maintaining and operating the plant and material are identified in a schedule and described in the manual.
- 9. Alarm response card needs to be populated by the *Contractor* for the *Employers* acceptance

21 Supplier Development, Localisation and Industrialisation

The *Contractor* complies with and fulfils the *Contractor's* obligations in respect of the Supplier Development, Localisation and Industrialisation in accordance with and as provided for in the *Contractor's* SDL&I's Proposal stated below:

- Through its Corporate Social Investment (CSI) initiative, invest in the local Technical, Vocational Education and Training Colleges in the vicinity of Eskom's designated Power Stations. Preference will be given to the training of Electricians.

The *Contractor* shall keep accurate records and provide the *Project Manager* with reports on the *Contractor's* actual delivery against the above stated SDL&I criteria. The *Contractor* shall submit SDL&I (Skills Development or CSI) reports on a quarterly basis.

The *Contractor's* failure to comply with his SDL&I obligations constitutes substantial failure on the part of the *Contractor* to comply with his obligations under this contract.

22 Plant and Materials

22.1 Quality

The *Contractor* procures, fabricates and delivers all the material necessary to complete the *Works*. All structural and constructional material is new and of the best quality, of the class most suitable for the purpose specified and governed by the following internationally recognised standards: ASME, DIN, BS, IEC and SANS. Other standards are submitted to the *Project Manager* for approval. Furthermore, all such materials are capable of withstanding the variations of temperature arising under working conditions without distortion or deterioration or the setting up of undue strains in any part, such as to affect the efficiency and reliability of the EV Charger System. The material and the material inspection and test plans are based on the same standard.

22.2 Contractor's procurement of Plant and Materials

The *Contractor* is responsible to procure all plant and materials that is required for them to complete the *Works*.

22.3 Spares and consumables

A critical and recommended spares list must be supplied and is priced separately where a fixed functional EV Charger assembly design is provided. All basic routine maintenance spares are locally available. The *Contractor* ensures that all critical spares are available during commissioning to prevent any delays due to equipment failure. The availability of spares is guaranteed for a minimum period of five years from completion of the whole of the *Works*.

A complete recommended spares list includes the following details:

- Description
- Part number
- Special storage requirements
- Replacement part or routine maintenance part
- Quantity
- Cost
- Lead time

- Supplier full contact details and address

A recommended Spare list is populated in the Schedule A; Appendix B, this makes reference to mandatory and recommended spares recommended by the *Contractor*.

23 Tests and inspections before delivery

The *Contractor* shall provide a testing / commissioning program and procedure to be submitted 4 weeks prior to the test/commissioning commencing for acceptance by the Project Manager. All tests will be witnessed by the Eskom Engineer and/or Supervisor and therefore the *Contractor* ensures that the Project Manager is timeously informed of when and where the tests and inspections will occur. All tests and commissioning are conducted as per National and Eskom Standards.

23.1 Factory acceptance testing (FAT)

The *Contractor* must conduct pre-checks and inspections before the *Employer* is notified for inspection/FAT. *Contractor* gives notice period of no less than ten (10) days (SA) prior to the date for the FAT unless agreed for an earlier date with the Employer. The *Contractor* supplies one (1) copy of all test certificates/data sheets and a procedure prior to FAT. This inspection entails a full system check (includes wiring checks) to ensure compliance with this specification, contract drawings and other applicable standards. The system functionality is to be demonstrated by the *Contractor* to the Project Manager/Supervisor during Factory Acceptance Tests at the Contractor's facility for the Charger assembly.

The following tests (checks) are conducted by the Contractor as a minimum, but not limited to and witnessed by the Project Manager/ Supervisor, Lead Engineer and or site representative:

- Dielectric test of auxiliary wiring and control circuitry;
- Dielectric tests of power circuit, bus bars and cables.
- If applicable, current transformer test to prove the ratio, polarity, resistance and magnetising curves;
- Check the nameplates, connections, torque all bolts and nuts on power cabling that will not require loosening and refastening on site;
- Functional tests on circuitry, and the indication circuitry (checks include fuse/mccb ratings, labelling, ferrule numbers, crimping and tightness of all connections including lugs);
- Calibration checks of all voltmeters and ammeters to prove their operation and accuracy class;
- Power Supply checks
- Alarms and indication checks
- Power electronics checks and tests
- Breaker/contactors tripping and closing under off-nominal voltages
- Overload checks
- Interlocking checks

All pre-FAT tests confirmed above regarding the communication systems will be demonstrated to the *Employer*.

24 Contractor's Equipment (including temporary works).

The *Contractor* is responsible for all temporary works necessary to complete the works..

25 Construction

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

Before work starts on Site, a Site inaugural meeting is held between the *Contractor* and the *Employer*, where details of the *Works* are discussed and clarified;

- a) The *Contractor* complies to all Site rules, procedures and regulations.
- b) The *Contractor* submits a safety file to the *Employer* for approval. Work may only commence after the safety file has been approved by the *Employer*.
- c) The *Contractor's* Site Supervisor is on Site for the entire duration of the *Works*.

- d) General access to the power station is controlled and Site induction has to be completed before work will be allowed to start.
- e) It is mandatory that the *Contractor* adheres to all security regulations in force during the period of the contract.
- f) Before entry to the Site will be allowed, everyone will undergo an alcohol breathalyser test which needs to be passed.
- g) There are five Life-saving Rules to which the *Contractor* is required to adhere to at all times.

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

The *Contractor* satisfies himself and complies with the Site conditions presented during induction. The *Contractor* is required to comply with all Site restrictions pertaining to the Site's roads, walkways and barricades.

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

The *Contractor* makes provision to perform the *Works* during normal working hours as follows:

Monday to Thursday

07:00 – 16:15

Fridays

07:00 – 12:00

25.4 Contractor's Equipment

The *Contractor* provides the Employer with a complete list of materials, tools, Equipment and or machinery before bringing it onto Site.

The *Contractor* provides and maintains all tests and measuring Equipment required for all tests to the required accuracy. The accuracy of test Equipment is required to be better than ± 0.1 %.

The type and class of Equipment used is subject to the Acceptance by the *Employer*.

The *Contractor's* measuring Equipment is accompanied by valid calibration certificates from an approved authority.

The Project Manager may at any stage during the *Works* require such Equipment to be checked by an approved laboratory or the South African Bureau of Standards.

25.5 Equipment provided by the Employer

The *Employer* does not provide any equipment towards completing the *Works*.

25.6 Site services and facilities

25.6.1 Electricity Supply for Construction

The nearest electrical power supply will be indicated by the *Employer* if available, but it is the *Contractor's* responsibility to arrange for all such services required in the execution of the *Works*. No warrantee is offered or given by the *Employer* that the existing electrical supply availability will be adequate for the *Contractors* purposes nor is that supply in any way guaranteed. The distribution of electricity is carried out by the *Contractor* strictly in accordance with the applicable laws and regulation. The *Contractor* verifies extension lead requirements and provides extension leads to provide the *Works*. The *Contractor* provides everything else necessary for providing the *Works*.

25.6.2 Water Supply

All points of supply are provided in terms of availability and location. The *Employer* indicates which supply points may be used if available. The *Contractor* to source and supply his own water and it is the *Contractor's* responsibility to arrange for all such services required in the execution of the *Works*. No warranty is offered or given by the *Employer* that the existing water supply availability will be adequate for the *Contractor's* purpose nor is such water supply in any way guaranteed. All water for construction purposes is clean, free from undesirable concentrations of deleterious salts and other materials.

25.6.3 Area for Site establishment and Storage

A Site Establishment and storage area is indicated to the *Contractor* by the *Employer* if requested. Security to the *Contractor's* storage area and facility is the responsibility of the *Contractor*. The area allocated to the *Contractor* is reinstated to its former condition on handover of the *Works*.

25.6.4 Sanitary facilities

Facilities are provided in the power station complex only. The *Contractor* provides everything else necessary for providing the *Works*.

25.6.5 Office Space

The *Employer* shall not provide office space to *Contractors* for the total period of the contract, including work on Site. Parking space is available outside of the station building for the *Contractor* to utilise for temporary office space.

25.6.6 Telecommunications

Telephone connections are not available. The *Contractor* makes provision for his own Telecommunication requirements.

25.6.7 Facilities provided by the Contractor.

The *Contractor* makes provision for accommodation, vehicles, kitchen - and office space (mobile container) and Equipment etc. The *Contractor* removes all this Equipment and waste which they generated during the installation and commissioning within 24 hours after Completion. No spoil areas are provided on site and the *Contractor* arrange for the disposal of waste. Construction waste to be disposed at a registered disposal facility.

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

The *Contractor* communicates disruptions and amount of time of the disruption to the *Employer* during the *Works*. The *Contractor* is required to inspect the *Work* and ensure that it is safe before execution. The *Contractor* communicates with the *Employer* requirements regarding working times, construction methods, permits and down time requirements. No work commences pending the *Employer's* written instruction.

25.6.9 Survey control and setting out of the works

Prior to any excavation work, the *Contractor* makes use of an appointed professional land surveyor to perform a survey to establish if any underground services exist in the affected area. Should the underground services exist in the affected area, the *Contractor* shall produce drawings depicting the location of the existing services as well as the new location of the services should they be rerouted, with all necessary details such as type of service detected, direction, length, location, etc. The *Contractor* appoints a professional land surveyor to perform a Construction Survey which includes set-out of points, lines, levels, horizontal control, vertical control, and bench marking for the execution of the *Works*.

25.6.10 Excavations and associated water control

The *Contractor* ensures that excavations are done safely. The *Contractor* ensures that cable/pipe detection is conducted for areas where excavation is taking place to avoid breaking of live cables and water pipe bursts.

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

The *Contractor* minimises interference of any nature with regards to existing services, cable and pipe trench covers. In the event that the *Contractor* damages one of the above, the repair cost would be for the *Contractor*.

25.6.12 Sequences of construction or installation

All activities are performed according to the *Contractors* Programme accepted by the *Employer*.

26 Completion, testing, commissioning and correction of Defects

26.1 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
	Performance testing of the <i>works</i> in use as specified in 27.10 of this document.	See performance testing requirements.
	As built drawings	Within 30 days after Completion of the <i>Works</i>
	Commissioning of the <i>Works</i>	27.5 and 27. 6

26.2 Materials facilities and samples for tests and inspections

Samples of components may be requested by the *Employer* for pre-acceptance where deemed necessary.

26.3 Commissioning

The activities forming part of live testing, live commissioning or power up of any component is not embarked on until the Project Manager's acceptance of the Commissioning documentation. The Commissioning procedures to be submitted to the Project Manager for acceptance 4 weeks prior to the commissioning date. Commissioning will not start until the following documents, required for the commissioning of the equipment, has been signed off and submitted for acceptance by the Project Manager:

1. All relevant drawings
2. All relevant site acceptance test reports completed and signed
3. All installation related defects are cleared.
4. All QCP's signed at the relevant steps.
5. All safety clearance certificates signed.

26.4 Site Acceptance Tests

Site acceptance testing is done by the *Contractor* and witnessed by the Supervisor and/or *Employer*. The test procedure are prepared by the *Contractor* and submitted to the Project Manager 4 weeks prior to the execution of the tests and accepted by the Project Manager. . Execution of the tests can only commence once the procedure has been accepted by the Project Manager. All test equipment must be provided by the *Contractor*.

Steel components shall be checked for dimensional accuracy and conformity to drawings, to prove that the manufacturing process is working satisfactorily before galvanising of steel components.

Welders, welding operators and tack welders shall be qualified by a fabricator, steelwork erector or an independent testing agency.

Records of test results shall be kept by the fabricator or steelwork erector.

NDT tests shall be carried out on all welds in the form of the following: Fillet welds are required to undergo magnetic particle inspection (20% of all welds). All butt welds and full penetration welds are required to undergo ultrasonic non-destructive testing (100% of welds).

The permissible deviations for fabrication, foundations, and anchor bolts, and erected steelwork will be in accordance with tables 3 to 9 of SANS 2001-CS1.

26.5 Cold Commissioning Tests

The purpose of the cold commissioning is to ensure that all the Plant and Materials are correctly installed and ready for hot commissioning.

- (a) Cold commissioning is done by the *Contractor* and witnessed by the *Employer*.
- (b) The test procedure needs to be accepted by the *Employer*.

26.6 Hot Commissioning Tests

Hot Commissioning starts after cold commissioning is complete.

- (a) The EV Charger assembly is commissioned by testing each piece of equipment for full functionality.
- (b) *Contractor* performs hot commissioning of the EV Charger assembly as per the accepted procedure and witnessed by the *Employer*.

26.7 Start-up procedures required to put the works into operation

The *Contractor* is on site when the first live operation of the EV Charger commences.

26.8 Take over procedures

Take-over is when all testing, inspections and commissioning as specified in Sections above are successfully completed.

26.9 Access given by the Employer for correction of Defects

The *Employer* will grant access to the *Contractor* for correcting defects, depending on availability of plant and Employer resources.

26.10 Performance tests after Completion

All commissioning tests must be submitted to the *Employer* for acceptance and if additional tests are required, it will be communicated by the Project Manager to the *Contractor*.

27 Training and technology transfer

27.1 General

Training provided by the *Contractor* is directly applicable to the actual Plant and Material supplied for the works. Generalised training based on similar Plant and Material is not acceptable;

Engineering training is provided prior to the Factory Acceptance Testing of the new assembly; All pre-FAT training is conducted at the *Contractor's* local test facility and all operating and maintenance training is conducted at Each Pilot site.

The local facilities for training provided by the *Employer* are a suitably sized air-conditioned room, to accommodate the required trainees as well as trainee and trainer desks, an overhead projector and flipchart or white board. The *Contractor* submits to the Project Manager for acceptance a detailed training programme as well as a prospectus for each course one month before each training session. The number of participants that are to be trained is as indicated by the *employer* for each pilot site. The *Employer* bears the cost of salaries, accommodation, travelling expenses and other allowances of his personnel during the training, but all other training costs are for the *Contractor* account.

27.2 Training Requirements

1. Engineering Training
2. Overview of the EV Charger System;

3. Overview of communication troubleshooting for all interfaces;
4. The training includes the following aspects:
 - a. Familiarisation with documentation (maintenance plan, procedures etc.);
 - b. Operator interface familiarisation e.g. operational functions, alarms etc;
5. Hardware familiarisation;
6. Hardware maintenance;
7. Maintenance of components
8. fault finding
9. Full commissioning understanding
10. Operator training
11. Operating the equipment, e.g. isolations and switching etc;
12. Operator interfacing and intervention, e.g. operating functions, indications and alarm etc;
13. Safety switching and isolating mechanisms of the equipment, e.g. Incomers, feeder breakers
14. Maintenance training
15. Familiarise with documentation, e.g. drawings, maintenance plan, procedures etc.
16. Operator interface familiarisation, e.g. operational functions, alarms etc.
17. Hardware familiarisation
18. Hardware Maintenance

27.3 Training Documentation

All necessary technical data, design data literature and drawings to be incorporated into a training manual. Course material to be in English and all third-party devices and components must be covered as well. The training manual to be submitted by *Contractor* to the Project Manager for acceptance 4 weeks prior to the execution of the training.

27.4 Operational maintenance after Completion

The *Contractor* is required to provide Operation and Maintenance Manuals for all of the works, for acceptance by the Project Manager 4 weeks prior to the completion of the *Works*.

28 Investigation, survey and Site clearance

The *Contractor* conducts a thorough site investigation of existing facilities and the area around which he is to do his work before he commences with any part of the *Work* as detailed in this report. If the *Contractor* requires access to specific areas, this is arranged with the Project Manager and notifying in advance. The *Contractor* to dispose all waste generated from the *Works*. Existing shade net removed from carport structure to be stockpiled on site for *Employer* to recommend further action.

29 List of drawings

29.1 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
0.63/210, sheet 6	7	Station MV and LV Electrical Diagram
0.63/5075 sheet 2 of 5	11	380V Administration Block Board A Switchgear Schedule.
0.63/7991	2	Cable Tunnels and Key Plan
D-DT-0854 sheet 1-8	8	MV and LV Cable Laying Standard
D-DT-3034	13	Specification's for MCCB's
D-DT-3128	19	Power Cables - LV
D-DT-3147	7	Cable Accessories, Joints and Termination Kits - LV
D-DT-8018	4	Pipe PVC
0.95/6	00	Sere Wind Energy Facility Permanent Eskom – Buildings Locality Plan
0.95/19	10	Sere Wind Energy Facility O&M Offices and Visitors Centre Site Plan
D-DT-0854	8	LV Power Cable Trench Details
D-DT-8012	4	Cable Marker

PART 4: SITE INFORMATION

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

PART 4: SITE INFORMATION

The requirements are for the supply and maintenance of the Electric Vehicles (EVs) charging infrastructure systems at the following sites:

1. Koeberg Power Station in Melkbostrand, Western Cape
2. Matimba Power station in Lephalale, Limpopo
3. Komati Power Station in Blinkpan, Mpumalanga
4. Lethabo Power Station near Vereeniging, Free State
5. Sere Wind farm Peaking Station in Vredendal, Western Cape

4.1. Koeberg Power Station in Melkbostrand, Western Cape

The Site is Koeberg Nuclear Power Station (KNPS) located north of Melkbosstrand in the southern part of the Western Cape and can be accessed via the R27, main road from Cape Town to Saldanha. The turn-off to KNPS is clearly marked on the R27. KNPS is situated about 30 km north of Cape Town, with coordinates at approximately 33° 40.7' S and 18° 26' E. After turning off the R27, the access route continues along the main road leading directly to KNPS.

Prior to the Site access to *site*, there are two Public Exclusion Barrier (PEB) security check points, viz. at the entrance from the R27 and at the entrance from Duynfontein. Security access is through Access Control Points (ACP) 1 and 2.

The contractor shall take all the necessary precautions to protect existing plant equipment and infrastructure in the vicinity of the work site. The contractor shall be responsible for any damage caused to existing plant equipment and infrastructure which may occur during execution of the works. All damages shall be brought to Eskom's attention prior to the implementation of any repairs.





4.2. Matimba Power station in Lephalale, Limpopo

The Matimba Power Station is located approximately 13km west of the town of Lephalale along Nelson Mandela Drive within the Limpopo Province of South Africa.



The Matimba Power Station infrastructure is inclusive of various buildings, structures, plant, and machinery. Laydown areas with its relevant water and electrical hoop-up points will be presented at clarifications sessions during the enquiry.

Matimba Power Station has many hidden services to support the Power Station, which includes, but is not limited to underground water piping, trenches, cabling, gas lines, etc.

4.3. Komati Power Station in Blinkpan, Mpumalanga

Komati Power Station situated about 37km from Middelburg, 43km from Bethel and 40km from Witbank, via Vandyksdriff in Mpumalanga. The terrace height of the Power Station is approximately 1600 meters above sea level.

End Customer Point of Connection Coordinates	Latitude	S	2	6	°	0	5	"	2	5	'	8	'	
	Longitude	E	2	9	°	2	8	"	1	8	'	8	'	
Land parcel description	Komati Power Station													

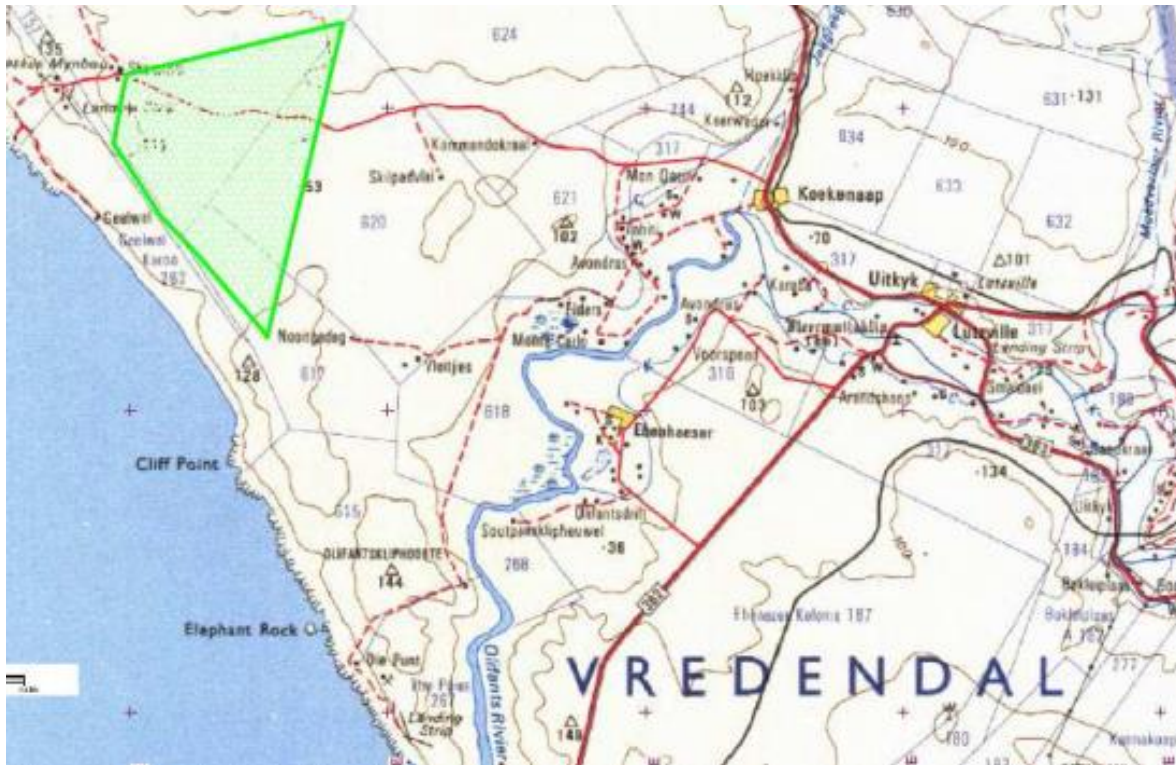
4.4. Lethabo Power Station near Vereeniging, Free State

Lethabo Power Station is Situated in the northern Free State at an altitude of 1 460 m, Lethabo lies approximately 10 km south of Vereeniging and 25 km east of Sasolburg. It is on the Viljoensdrift - Deneysville Road, Free State. Access to the site will be via the main security gate only.



4.5. Sere Wind farm Peaking Station in Vredendal, Western Cape

The Sere Wind Farm (green shaded area) is located close to the town of Koekenaap and falls within the Matzikama Municipality, in the Western Cape, South Africa. (See map below)



The site can be accessed by travelling from Vredendal along the R363, pass through Lutzville and roughly 300 after the main 4 way intersection in Koekenaap, turn left on to the DR2225. Travel along the DR2225 for approximately 20km, the site entrance is on the left-hand side.

Location: -31.515 latitude, 18.115 longitude.