



NEC3 Engineering & Construction Contract

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

and

**for Test replacement of 8B and 8F Station Magnets at
Matla Power Station.**

Contents:

**No of
pages**

Part C1 Agreements & Contract Data

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CONTRACT No.

Part C1: Agreements & Contract Data

Contents:**No of
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C1.1 Form of Offer & Acceptance

Offer

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

Test replacement of 8B and 8F Station Magnets at Matla Power Station for the period of Twelve months (12 months).

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	
	Sub total	
	Value Added Tax @ 15% is	
	The offered total of the amount due inclusive of VAT is ¹	

his 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

Eskom Matla Power Station
 Delmas Road
 Kriel
 2271

(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	None raised	N/A

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 _____ Name & signature of witness _____ Date _____	_____ _____ _____ _____ _____ _____
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C1.2 ECC3 Contract Data

Part one - Data provided by the *Employer*

Clause	Statement	Data
1	General	
	The <i>conditions of contract</i> are the core clauses and the clauses for main Option	
	dispute resolution Option and secondary Options	<p>A: Priced contract with activity schedule</p> <p>W1: Dispute resolution procedure</p> <p>X1: Price adjustment for inflation</p> <p>X2 Changes in the law</p> <p>X5: Sectional Completion</p> <p>X7: Delay damages</p> <p>X15: Limitation of <i>Contractor's</i> liability for design to reasonable skill and care</p> <p>X16: Retention</p> <p>X17: Low performance damages</p> <p>X18: Limitation of liability</p> <p>Z: <i>Additional conditions of contract</i></p>
	of the NEC3 Engineering and Construction Contract, April 2013 (ECC3)	
10.1	The <i>Employer</i> is (Name):	Eskom Holdings SOC Ltd (reg no: 2002/015527/30), a state-owned company incorporated in terms of the company laws of the Republic of South Africa
	Address	Registered office at Megawatt Park, Maxwell Drive, Sandton, Johannesburg
10.1	The <i>Project Manager</i> is: (Name)	Matla Power Station
	Address	
	Tel	
	Fax	
	e-mail	

10.1	The <i>Supervisor</i> is: (Name) Address Tel No. Fax No. e-mail																
11.2(13)	The <i>works</i> are	Test replacement of 8B and 8F Station Magnets at Matla Power Station.															
11.2(14)	The following matters will be included in the Risk Register	1. Non-compliance to statutory SHEQ and legal requirement which could result to injuries, near misses and penalties. 2. Damage to conveyors during installation and injuries to people. 3. Poor system performance due to poor workmanship															
11.2(15)	The <i>boundaries of the site</i> are	Matla Power Station, site allocated for this project															
11.2(16)	The Site Information is in	Part 4: Site Information															
11.2(19)	The Works Information is in	Part 3: Scope of Work and all documents and drawings to which it refers.															
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	3 working days															
2	The Contractor's main responsibilities	Data required by this section of the core clauses is provided by the Contractor in Part 2 and terms in italics used in this section are identified elsewhere in this Contract Data.															
3	Time																
11.2(3)	The <i>completion date</i> for the whole of the <i>works</i> is	TBA															
11.2(9)	The <i>key dates</i> and the <i>conditions</i> to be met are:	<table border="1"> <thead> <tr> <th></th> <th>Condition to be met</th> <th>key date</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Submission & approval of FRI, PIP and QCPs prior any activities starting.</td> <td>5 days after kick-off meeting</td> </tr> <tr> <td>2</td> <td>Completion of each unit's works</td> <td>As per the approved Schedule</td> </tr> <tr> <td>3</td> <td>Safety File Approval</td> <td>5 days after signing the contract</td> </tr> <tr> <td>4</td> <td>Commissioning and handover of each unit</td> <td>As per the approved</td> </tr> </tbody> </table>		Condition to be met	key date	1	Submission & approval of FRI, PIP and QCPs prior any activities starting.	5 days after kick-off meeting	2	Completion of each unit's works	As per the approved Schedule	3	Safety File Approval	5 days after signing the contract	4	Commissioning and handover of each unit	As per the approved
	Condition to be met	key date															
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4	Commissioning and handover of each unit	As per the approved															

		Schedule
30.1	The <i>access dates</i> are:	Part of the Site 1 Date After the contract awarded
31.1	The <i>Contractor</i> is to submit a first programme for acceptance within	After 2 weeks of the signed Contract Date.
31.2	The <i>starting date</i> is	
32.2	The <i>Contractor</i> submits revised programmes at intervals no longer than	5 days when there are changes of the key dates and other events
35.1	The <i>Employer</i> is not willing to take over the <i>works</i> before the Completion Date.	
4	Testing and Defects	
42.2	The <i>defects date</i> is	52 weeks after Completion of the whole of the works.
43.2	The <i>defect correction period</i> is	5 days
5	Payment	
50.1	The <i>assessment interval</i> is	After completion of a milestone.
51.1	The <i>currency of this contract</i> is the	South African Rand.
51.2	The period within which payments are made is	30 days from the date of submission of the invoice
51.4	The <i>interest rate</i> is	<p>the publicly quoted prime rate of interest (calculated on a 365 day year) charged from time to time by the Standard Bank of South Africa Limited (as certified, in the event of any dispute, by any manager of such bank, whose appointment it shall not be necessary to prove) for amounts due in Rands and</p> <p>(ii) the LIBOR rate applicable at the time for amounts due in other currencies. LIBOR is the 6 month London Interbank Offered Rate quoted under the caption "Money Rates" in The Wall Street Journal for the applicable currency or if no rate is quoted for the currency in question then the rate for United States Dollars, and if no such rate appears in The Wall Street Journal then the rate as quoted by the Reuters Monitor Money Rates Service (or such service as may replace the Reuters Monitor Money Rates Service) on the due date for the payment in question, adjusted <i>mutatis mutandis</i> every 6 months thereafter and as certified, in the event of any dispute, by any manager employed in the foreign exchange department of The Standard Bank of South Africa Limited, whose appointment it shall not be necessary to prove.</p>

6 Compensation events	
60.1(13)	<p>The place where weather is to be recorded is: Matla Power Station Kriel</p> <p>The <i>weather measurements</i> to be recorded for each calendar month are, the cumulative rainfall (mm)</p> <p>the number of days with rainfall more than 10 mm</p> <p>the number of days with minimum air temperature less than 0 degrees Celsius</p> <p>the number of days with snow lying at 09:00 hours South African Time</p> <p>and these measurements:</p> <p>The <i>weather measurements</i> are supplied by The Contractor</p> <p>The <i>weather data</i> are the records of past <i>weather measurements</i> for each calendar month which were recorded at: Kriel</p> <p>and which are available from: the South African Weather Bureau and included in Annexure A to this Contract Data provided by the Employer</p>
7	<p>Title</p> <p>There is no reference to Contract Data in this section of the core clauses and terms in italics used in this section are identified elsewhere in this Contract Data.</p>
8 Risks and insurance	
80	Employer's risks
80.1	These are additional <i>Employer's</i> risks None
81	The Contractors risks
81.1	From the starting date until the defect certificate has been issued, the risks which are not carried by the employer are carried by the contractor
82	Repairs
82.1	Until the defects Certificate has been issued and unless otherwise instructed by the <i>Project Manager</i> , the <i>Contractor</i> promptly replaces loss of <i>and</i> repairs damaged to the Works, Plant and Materials
83	Indemnity
83.1	Each Party indemnifies the other against claims, proceedings, compensation, and costs due to an event which is at his risk.
83.2	The liability of each Party to indemnify the other is reduced if events at the other Party's risk contributed to the claims, proceedings, compensation and costs. The reduction is in proportion to the extent that the event which were at the other Party's risk contributed, taking into account each Party's responsibilities under this contract.

84	Insurance Cover		
84.1	The <i>Employer</i> provides these insurances from the Insurance Table	Information available on the link below http://www.eskom.co.za/live/content.php?Item_ID=9248 (See Annexure C for basic guidance)	
9	Termination	Termination of the contract is subject to clause 90 of NEC3 Engineering Construction Contract	
10	Data for main Option clause		
A	Priced contract with activity schedule	As defined in clause 11 of NEC3 Engineering Construction Contract	
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	Johannesburg 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		
X1	Price adjustment for inflation		
X1.1(a)	The <i>base date</i> for indices is	15/04/2024	
X1.1(c)	The proportions used to calculate the Price Adjustment Factor are:	proportion	linked to index for
		15%	Fixed Portion
		30%	Labour
			Index prepared by
			Eskom and Contractor
			Eskom and Contractor

		10%	Transport	Eskom and Contractor
		45%	Material	Eskom and Contractor
		Total 100%		
		Prices will be fixed and firm for the first 12 months of the contract start date, thereafter, will be escalated annually using the above CPA Indices.		
X2	Changes in the law			
X2.1	Change in the law of South Africa	A change in the law of South Africa that impact the execution of the Works stated in this contract (time and/or cost) will result in a compensation event if it occurs after the Contract Date		
X5 & X7	Sectional Completion and delay damages used together			
X7.1 X5.1	Delay damages for late Completion of the sections of the works are:	Section	Description	Amount per day
		Unit 2	Test replacement of 8B Station Magnet.	1% of the contract value per day
		Unit 6	Test replacement of 8F Station Magnet.	1% of the contract value per day
	Remainder of the works			
	The total delay damages payable by the Contractor does not exceed:	10% of the contract value		
X15	Limitation of the Contractor's liability for his design to reasonable skill & care			
X15.1	The Contractor is not liable for the Defects in the works due to is design so far as he proves that he used reasonable skill and care to ensure that his design complied with the Works Information			
X15.2	If the Contractor corrects a Defect for which he is not liable under this contract it is a compensation event			
X16	Retention (not used with Option F)			
X16.1	The retention percentage is	10%		
X17	Low performance damages			
X17.1	The amounts for low performance damages are:	Refer to Annexure B: Table of low performance damages (X17)		

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	The greater of <ul style="list-style-type: none"> • the total of the Prices at the Contract Date and • the amounts excluded and unrecoverable from the <i>Employer's</i> assets policy for correcting the Defect (other than the resulting physical damage which is not excluded) plus the applicable deductible as at contract date.
X18.4	The <i>Contractor's</i> total liability to the <i>Employer</i> for all matters arising under or in connection with this contract, other than excluded matters, is limited to:	the total of the Prices other than for the additional excluded matters. The <i>Contractor's</i> total liability for the additional excluded matters is not limited. The additional excluded matters are amounts for which the <i>Contractor</i> is liable under this contract for <ul style="list-style-type: none"> • Defects due to his design which arise before the Defects Certificate is issued, • Defects due to manufacture and fabrication outside the Site, • loss of or damage to property (other than the <i>works</i>, Plant and Materials), <ul style="list-style-type: none"> • death of or injury to a person and • infringement of an intellectual property right.

X18.5	The <i>end of liability date</i> is	(i) 1 year after the <i>defects date</i> for latent Defects and
		(ii) the date on which the liability in question prescribes in accordance with the Prescription Act No. 68 of 1969 (as amended or in terms of any replacement legislation) for any other matter.
		A latent Defect is a Defect which would not have been discovered on reasonable inspection by the <i>Employer</i> or the <i>Supervisor</i> before the <i>defects date</i> , without requiring any inspection not ordinarily carried out by the <i>Employer</i> or the <i>Supervisor</i> during that period. If the <i>Employer</i> or the <i>Supervisor</i> do undertake any inspection over and above the reasonable inspection, this does not place a greater responsibility on the <i>Employer</i> or the <i>Supervisor</i> to have discovered the Defect.

Z	The <i>Additional conditions of contract</i> are	Z1 to Z15 always apply.
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Z1 Cession delegation and assignment

- Z1.1 The *Contractor* does not cede, delegate or assign any of its rights or obligations to any person without the written consent of the *Employer*.
- Z1.2 Notwithstanding the above, the *Employer* may on written notice to the *Contractor* cede and delegate its rights and obligations under this contract to any of its subsidiaries or any of its present divisions or operations which may be converted into separate legal entities as a result of the restructuring of the Electricity Supply Industry.

Z2 Joint ventures

- Z2.1 If the *Contractor* constitutes a joint venture, consortium or other unincorporated grouping of two or more persons or organisations then these persons or organisations are deemed to be jointly and severally liable to the *Employer* for the performance of this contract.
- Z2.2 Unless already notified to the *Employer*, the persons or organisations notify the *Project Manager* within two weeks of the Contract Date of the key person who has the authority to bind the *Contractor* on their behalf.
- Z2.3 The *Contractor* does not alter the composition of the joint venture, consortium or other unincorporated grouping of two or more persons without the consent of the *Employer* having been given to the *Contractor* in writing.

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

- Z3.1 Where a change in the *Contractor's* legal status, ownership or any other change to his business composition or business dealings results in a change to the *Contractor's* B-BBEE status, the *Contractor* notifies the *Employer* within seven days of the change.
- Z3.2 The *Contractor* is required to submit an updated verification certificate and necessary supporting documentation confirming the change in his B-BBEE status to the *Project Manager*

within thirty days of the notification or as otherwise instructed by the *Project Manager*.

Z3.3 Where, as a result, the *Contractor's* B-BBEE status has decreased since the Contract Date the *Employer* may either re-negotiate this contract or alternatively, terminate the *Contractor's* obligation to Provide the Works.

Z3.4 Failure by the *Contractor* to notify the *Employer* of a change in its B-BBEE status may constitute a reason for termination. If the *Employer* terminates in terms of this clause, the procedures on termination are P1, P2 and P3 as stated in clause 92, and the amount due is A1 and A3 as stated in clause 93.

Z4 Confidentiality

Z4.1 The *Contractor* does not disclose or make any information arising from or in connection with this contract available to Others. This undertaking does not, however, apply to information which at the time of disclosure or thereafter, without default on the part of the *Contractor*, enters the public domain or to information which was already in the possession of the *Contractor* at the time of disclosure (evidenced by written records in existence at that time). Should the *Contractor* disclose information to Others in terms of clause 25.1, the *Contractor* ensures that the provisions of this clause are complied with by the recipient.

Z4.2 If the *Contractor* is uncertain about whether any such information is confidential, it is to be regarded as such until notified otherwise by the *Project Manager*.

Z4.3 In the event that the *Contractor* is, at any time, required by law to disclose any such information which is required to be kept confidential, the *Contractor*, to the extent permitted by law prior to disclosure, notifies the *Employer* so that an appropriate protection order and/or any other action can be taken if possible, prior to any disclosure. In the event that such protective order is not, or cannot, be obtained, then the *Contractor* may disclose that portion of the information which it is required to be disclosed by law and uses reasonable efforts to obtain assurances that confidential treatment will be afforded to the information so disclosed.

Z4.4 The taking of images (whether photographs, video footage or otherwise) of the *works* or any portion thereof, in the course of Providing the Works and after Completion, requires the prior written consent of the *Project Manager*. All rights in and to all such images vests exclusively in the *Employer*.

Z4.5 The *Contractor* ensures that all his subcontractors abide by the undertakings in this clause.

Z5 Waiver and estoppel: Add to core clause 12.3:

Z5.1 Any extension, concession, waiver or relaxation of any action stated in this contract by the Parties, the *Project Manager*, the *Supervisor*, or the *Adjudicator* does not constitute a waiver of rights, and does not give rise to an estoppel unless the Parties agree otherwise and confirm such agreement in writing.

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

Z6.1 The *Contractor* undertakes to take all reasonable precautions to maintain the health and safety of persons in and about the execution of the *works*. Without limitation the *Contractor*:

- accepts that the *Employer* may appoint him as the "Principal Contractor" (as defined and provided for under the Construction Regulations 2014 (promulgated under the Occupational Health & Safety Act 85 of 1993) ("the Construction Regulations") for the Site;
- warrants that the total of the Prices as at the Contract Date includes a sufficient amount for proper compliance with the Construction Regulations, all applicable health & safety laws and regulations and the health and safety rules, guidelines and

procedures provided for in this contract and generally for the proper maintenance of health & safety in and about the execution of *works*; and

- undertakes, in and about the execution of the *works*, to comply with the Construction Regulations and with all applicable health & safety laws and regulations and rules, guidelines and procedures otherwise provided for under this contract and ensures that his Subcontractors, employees and others under the *Contractor's* direction and control, likewise observe and comply with the foregoing.

Z6.2 The *Contractor*, in and about the execution of the *works*, complies with all applicable environmental laws and regulations and rules, guidelines and procedures otherwise provided for under this contract and ensures that his Subcontractors, employees and others under the *Contractor's* direction and control, likewise observe and comply with the foregoing.

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

Z7.1 Within one week of receiving a payment certificate from the *Project Manager* in terms of core clause 51.1, the *Contractor* provides the *Employer* with a tax invoice in accordance with the *Employer's* procedures stated in the Works Information, showing the amount due for payment equal to that stated in the payment certificate.

Z7.2 If the *Contractor* does not provide a tax invoice in the form and by the time required by this contract, the time by when the *Employer* is to make a payment is extended by a period equal in time to the delayed submission of the correct tax invoice. Interest due by the *Employer* in terms of core clause 51.2 is then calculated from the delayed date by when payment is to be made.

Z7.3 The *Contractor* (if registered in South Africa in terms of the companies Act) is required to comply with the requirements of the Value Added Tax Act, no 89 of 1991 (as amended) and to include the *Employer's* VAT number 4740101508 on each invoice he submits for payment.

Z8 Notifying compensation events

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

Z9 Employer's limitation of liability

Z9.1 The *Employer's* liability to the *Contractor* for the *Contractor's* indirect or consequential loss is limited to R0.00 (zero Rand)

Z9.2 The *Contractor's* entitlement under the indemnity in 83.1 is provided for in 60.1(14) and the *Employer's* liability under the indemnity is limited.

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

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

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

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

Z12 Ethics

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

- Affected Party** means, as the context requires, any party, irrespective of whether it is the *Contractor* or a third party, such party's employees, agents, or Subcontractors or Subcontractor's employees, or any one or more of all of these parties' relatives or friends,
- Coercive Action** means to harm or threaten to harm, directly or indirectly, an Affected Party or the property of an Affected Party, or to otherwise influence or attempt to influence an Affected Party to act unlawfully or illegally,
- Collusive Action** means where two or more parties co-operate to achieve an unlawful or illegal purpose, including to influence an Affected Party to act unlawfully or illegally,
- Committing Party** means, as the context requires, the *Contractor*, or any member thereof in the case of a joint venture, or its employees, agents, or Subcontractor or the Subcontractor's employees,
- Corrupt Action** means the offering, giving, taking, or soliciting, directly or indirectly, of a good or service to unlawfully or illegally influence the actions of an Affected Party,
- Fraudulent Action** means any unlawfully or illegally intentional act or omission that misleads, or attempts to mislead, an Affected Party, in order to obtain a financial or other benefit or to avoid an obligation or incurring an obligation,
- Obstructive Action** means a Committing Party unlawfully or illegally destroying, falsifying, altering or concealing information or making false statements to materially impede an investigation into allegations of Prohibited Action, and
- Prohibited Action** means any one or more of a Coercive Action, Collusive Action Corrupt Action, Fraudulent Action or Obstructive Action.

- Z12.1 A Committing Party may not take any Prohibited Action during the course of the procurement of this contract or in execution thereof.
- Z12.2 The *Employer* may terminate the *Contractor's* obligation to Provide the Services if a Committing Party has taken such Prohibited Action and the *Contractor* did not take timely and appropriate action to prevent or remedy the situation, without limiting any other rights or remedies the *Employer* has. It is not required that the Committing Party had to have been found guilty, in court or in any other similar process, of such Prohibited Action before the *Employer* can terminate the *Contractor's* obligation to Provide the Services for this reason.
- Z12.3 If the *Employer* terminates the *Contractor's* obligation to Provide the Services for this reason, the amounts due on termination are those intended in core clauses 92.1 and 92.2.
- Z12.4 A Committing Party co-operates fully with any investigation pursuant to alleged Prohibited Action. Where the *Employer* does not have a contractual bond with the Committing Party, the *Contractor* ensures that the Committing Party co-operates fully with an investigation.

Z13 Insurance**Z 13.1 Replace core clause 84 with the following:****Insurance cover 84**

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

INSURANCE TABLE A

Insurance against	Minimum amount of cover or minimum limit of indemnity
Loss of or damage to the <i>works</i> , Plant and Materials	The replacement cost where not covered by the <i>Employer's</i> insurance. The <i>Employer's</i> policy deductible, at 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, at 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.

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

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

General

The Matla Power Station is situated approximately half way between Bethal and Ogies on the R545, being just over 30 km from each town and 13 km north-west of Kriel town.

Climate

Matla Power Station is situated in a summer rainfall area with an average annual precipitation of about 750-mm falling almost entirely during the months of October to April. The average rainfall per month generally exceeds 40 mm during this period, although drought periods do occur which can last for 20 days or longer. Drought periods occur most frequently during the months of October/November and March/April. January is statistically the highest rainfall month with an average monthly rainfall of about 130-mm. June has the lowest rainfall with an average monthly rainfall of about 7 mm.

Approximately 85% of the annual rainfall occurs in the summer months and heavy falls of 125 to 150 mm occasionally occur in a single day. The annual average number of thunderstorms is about 75. These storms are often violent with severe lightning and strong (but short-lived) gusty winds and are sometimes accompanied by hail. This region has among the highest hail frequencies in South Africa; about 4 to 7 occurrences (depending mainly on altitude) may be expected annually.

January is normally the hottest month with an average daily maximum temperature of 27°C with a mean daily temperature in winter being about 16°C. Winter average daily temperatures vary from 18, 5°C maximum to -1°C minimum. The extreme temperatures recorded range from 34, 7°C to minus 12, 4°C for the period 1920 - 1984. (Source: Weather Bureau, Pretoria)

Winds are generally light to moderate except during thunderstorms. Generally the prevailing wind directions are from the North West during the day and from the east at night. During daytime, the prevailing winds are from the north-western direction. During night-time, the prevailing winds are from the north-eastern direction. The highest recorded average wind speed is 17, 6 km/hour. The average wind velocity over the year is 14, 5 km/hour.

(Source: MSN weather & Weather 24, average records 2008 - 2009.)

Weather Data

THE ASSUMED 1 IN 10 YEAR RAINFALL FIGURES ARE:

Month	Cumulative rain (mm)	No of days with rainfall > 10mm
January	200	6
February	150	6
March	120	5
April	110	4
May	40	3
June	20	2
July	30	2
August	30	2
September	60	3

October	140	6
November	160	7
December	170	6

Relative Humidity

Records for Bethal (2008 - 2009)

The average relative humidity on an annual base are as follows:

08:00 = 80%

14:00 = 52%

20:00 = 73%

Prevailing Winds

Records for Bethal (2008 - 2009)

Winds are mostly north-westerly except for February and March when they are easterly to south-easterly. The highest wind speeds are recorded from the south-east: on average 14km/h.

Other Climatic Factors

Records for Bethal (2008 - 2009)

Thunder occurs mostly from November to January with average of 35.7 days annually.

- a) Hail occurs mostly in December with average of 2.8 days annually.
- b) Fog occurs mostly in the winter months with an average of 19 days annually.
- c) Snow rarely occurs
- d) Cloud coverage is highest in the summer months with annual average as follows:
 - 08:00 = 2.8/8
 - 14:00 = 3.8/8
 - 20:00 = 3.1/8

Evaporation for the area is in range of 75mm to 190mm per month. The highest evaporation occurs in December, and the lowest in June.

Topography

The surface topography of the Matla area is typical of the Mpumalanga Highveld consisting in the main of a gently undulating plateau. The flood plains of the local streams are at an average elevation of ± 1540 meters above mean sea level and drainage generally is a northerly direction.

Air Quality

The existing and potential sources of air pollution in Matla area are the following:

- Matla Power Station stack emissions
- Matla Power Station dry dust (fly ash) handling plant
- Dust blow from the Eskom coal stock yard
- Dust blow from the roads in the area
- Seasonal dust blow caused by ploughing of farmlands, and dust blow off denuded fields
- Dust blow from dried out exposed surfaces of the wet ash dam.

However, Eskom utilises the majority of the top surface of the ash dam as an evaporation pan for polluted water, which means that the exposed surface is constantly wet. The sides of the ash dam have largely been rehabilitated, with the result that dust blow from the ash dam.

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

Annexure B: Table of low performance damages (X17)

Low Performance Damage Description	Value of Low Service Damages	Limit of Low Service Damage
Performance delays not finishing as per agreed upon schedule submitted to the <i>Project leader</i>	0.5% of contract cost per day	Limited to 10% of the Contract value
Submission of data-book as per QCP requirements	0.5% of contract cost per day	Limited to 10% of the Contract value
Rework due to poor workmanship.	1% of contract cost per day	Limited to 10% of the Contract value
Daily Progress Updated Schedule	0.5% of contract cost per day	Limited to 10% of the Contract value
If the damages exceed 10% of Contract value, the Contract will be terminated as per ECC clause 91.2 (R11)		

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

C1.2 Contract Data

Part two - Data provided by the Contractor

Notes to a tendering contractor:

1. Please read both the NEC3 Engineering and Construction Contract (April 2013) and the relevant parts of its Guidance Notes (ECC3-GN)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	Matla Power Station premises
24.1	The <i>Contractor's</i> key persons are: 1 Name: Job: Responsibilities: Qualifications: Experience: 2 Name: Job Responsibilities: Qualifications: Experience:	CV's (and further key persons data including CVs) are appended to Tender Schedule entitled

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

11.2(3)	The <i>completion date</i> for the whole of the <i>works</i> is	30 December 2025
11.2(14)	The following matters will be included in the Risk Register	To be discussed with the contractor and be agreed on.
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	Rands
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 each group of completed activities and each completed activity which is not in a group. A completed activity is one which is without Defects which would either delay or be covered by immediately following work.
		(30) The Prices are the lump sum prices for each of the activities on the Activity Schedule unless later changed in accordance with this contract.

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

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 first then resource each activity and thus arrive at the lump sum price for that activity both of which can be entered into the *activity schedule*.

Preparing the *activity schedule*

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

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

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

TEST REPLACEMENT OF 8B AND 8F STATION MAGNETS AT MATLA POWER STATION

- 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***

Station Magnets replacement Project			
Item	Description	Qty	UOM
1.0	Electro Magnetic Tramp Metal remover, Model 350RSM900SAC (Manual Cleaning)		1 Each
1.1	Transformer / Rectifier Unit, 3ph AC V, to suit 380VAC supply		2 Each
1.2	Basic control Panel Unit, Mild steel IP65 rated enclosure		2 Each
1.3	Suspension Tackle Set		2 Each
1.4	Geared & Plain Crawls Set		2 Each
1.5	Steel beams, Columns, cross bracings, flanges and lugs etc		2 Set
1.6	Cables, glands & Lugs		2 Set
1.7	Installation & Commissioning		2 Set
1.8	Electromagnet (Self-Cleaning)		
	1 Motor Gearbox Belt for Cleaning 4 pulleys Magnet Core		1 Set
1.9	P&G's		
	Site Establishment		1 Sum
	Medicals and induction		1 Sum
	Safety including safety files		1 Sum
	Transport		1 Sum
	Management fees		1 Sum
	Site De-establishment		1 Sum
	Total		

PART 3: SCOPE OF WORK

Document reference	Title	No of pages
	This cover page	1
C3.1	<i>Employer's Works Information</i>	
C3.2	<i>Contractor's Works Information</i>	
	Total number of pages	

1 Description of the works

1.1 Executive overview

- Site establishment and basic design approvals (schematic & Single Line Diagrams).
- Construction and supply of 2X Electromagnets (1 self-cleaning and 1 manual cleaning); Transformer Rectifiers; and Local control panels.
- Supplying of Suspension chains/robes to hold the electromagnets from the hoist,
- Manufacturing and supplying of a discharge chute for 8B self-cleaning magnet,
- Decommissioning, removal and scrapping of the existing 8B&F Electromagnets; Transformer-Rectifier Circuit and local control panels.
- Installation/Erection of Electromagnets, Local control panels and Transformer-Rectifier's,
- Electrical wiring, terminations and issuing of CoC,
- Testing and commissioning,
- Live testing and quality performance check,
- Documentation and handovers.

NB: exclusions will only be allowed on non-critical activities.

DETAILED SCOPE

	SCOPE OF WORK DESCRIPTION / ACTIVITY	PROCEDURE, SPECIFICATION, ENG. REQUIREMENTS / DOCUMENTATION	HOLD POINTS, WITNESS, REPORTS	RESPONSIBLE PARTY
1.1	<ul style="list-style-type: none"> • Ensure that all relevant circuits are de-energized and isolated. • All circuit must be isolated accordingly where applicable 	All work shall be performed in accordance with the latest revision of PSR (36-681).	OPS – to ensure that all necessary earths are applied where necessary.	OPS
1.2	<ul style="list-style-type: none"> • Where necessary ensure that supplies to cables are isolated and any other potential source. 	All work shall be performed in accordance with the latest revision of PSR (36-681).	OPS – to ensure that all necessary isolations, fuses, links etc. are removed.	OPS
1.3	<ul style="list-style-type: none"> • Inspect all cables/lines inside the relevant position and all other components to ensure that none are damaged while work is being carried out. 	All work shall be performed in accordance with the latest revision of PSR (36-681). RPs to ensure plant is safe prior to permit acceptance.	EMD – shall ensure plant is isolated accordingly with a permit to work in place.	EMD

	SCOPE OF WORK DESCRIPTION / ACTIVITY	PROCEDURE, SPECIFICATION, ENG. REQUIREMENTS / DOCUMENTATION	HOLD POINTS, WITNESS, REPORTS	RESPONSIBLE PARTY																		
1.1	<p>Incline conveyor belt specifications for the design of electromagnets:</p> <ul style="list-style-type: none"> Contractor shall design the suspended electromagnets based on the following conveyor belt specifications: <table border="0" style="width: 100%;"> <tr> <td style="width: 20%;">Belt Width</td> <td>900mm</td> </tr> <tr> <td>Belt speed</td> <td>2,2m/s</td> </tr> <tr> <td>Belt Incline angle</td> <td>15.14</td> </tr> <tr> <td>Belt Capacity</td> <td>494t/h</td> </tr> <tr> <td>Material Conveyed:</td> <td>Coal</td> </tr> <tr> <td>Bulk density:</td> <td>720 kg/m³ Low BD, 880 kg/m³High BD</td> </tr> <tr> <td>Maximum lump size</td> <td>15mm</td> </tr> <tr> <td>Maximum burden depth</td> <td>~325mm</td> </tr> <tr> <td>Type of tramp iron to be extracted</td> <td>Mine picks</td> </tr> </table>	Belt Width	900mm	Belt speed	2,2m/s	Belt Incline angle	15.14	Belt Capacity	494t/h	Material Conveyed:	Coal	Bulk density:	720 kg/m ³ Low BD, 880 kg/m ³ High BD	Maximum lump size	15mm	Maximum burden depth	~325mm	Type of tramp iron to be extracted	Mine picks		HOLD	CONTRACTOR
Belt Width	900mm																					
Belt speed	2,2m/s																					
Belt Incline angle	15.14																					
Belt Capacity	494t/h																					
Material Conveyed:	Coal																					
Bulk density:	720 kg/m ³ Low BD, 880 kg/m ³ High BD																					
Maximum lump size	15mm																					
Maximum burden depth	~325mm																					
Type of tramp iron to be extracted	Mine picks																					
1.2	<p>Electromagnet Design requirements.</p> <ol style="list-style-type: none"> a. Electromagnets faceplate shall be made of robust material to withstand constant hitting of irons b. The electromagnets cross sectional area shall be enough to attract burden mine picks at the belt speed of 2.2m/s, c. The core design type shall be rectangular for high burden depths and maximum separation performance, d. Consideration shall be made since when the magnet surface area is increased, the magnetic flux density will decrease, and so does the strength of the magnetic fields to attract mine picks, 		HOLD	CONTRACTOR																		

TEST REPLACEMENT OF 8B AND 8F STATION MAGNETS AT MATLA POWER STATION

	<p>e. Because of frequent skewing of belts, electromagnets shall at least be optimized to the magnetic fields operating gap of 350mm at maximum gauss and ambient temperature,</p> <p>f. The electromagnets shall be designed to attract the type of tramp iron that are mostly found during coaling which has dimensions of 130X50mm and weight of 618.7 grams. The contractor shall collect samples from the employer,</p> <p>g. It is very important that the magnets are designed and selected according to the amount of Force Index (Gauss/mm) that is required to remove the mine picks in terms of size and shape from burden of coal travelling at max belt speed,</p> <p>h. The electromagnets shall not go over 1100 width because of belts drives(motor/gearbox) next to the conveyor belts that may overload the magnets due to constant magnetic field interaction,</p> <p>i. Coil shall be designed to prevent overheating and burn-outs or turns faults,</p> <p>j. The casing shall have cooling fins to maximise heat dissipation due dust ingress in the area that may slower cooling of windings.</p>			
<p>1.3</p>	<p>Suspended Electromagnets Required Specifications</p> <ul style="list-style-type: none"> The contractor Supply the Electromagnets with the following specs: 		<p>HOLD</p>	<p>CONTRACTOR</p>

TEST REPLACEMENT OF 8B AND 8F STATION MAGNETS AT MATLA POWER STATION

	<p>To go over conveyor width >900 & <1200</p> <p>Quantity required 2X</p> <p>Magnet type Dry type</p> <p>Cleaning type 1XManual(8F)&1X Self-cleaning(8B)</p> <p>Installation type Cross belt/incline</p> <p>Transformer input power ~per design</p> <p>Magnet Input power ~per design</p> <p>Cooling method Air</p> <p>Weight <=4.5T</p> <p>Ampere. Turns ~ per design</p> <p>Nominal Operating Gap 325mm</p> <p>Gauss reading @ 325mm GAP (30°C) ~ per design</p>			
<p>1.4</p>	<p>Local Control Panel requirements</p> <p>a. The contractor shall design, supply, and install the local control panel with the following specs:</p> <ul style="list-style-type: none"> • Floor mounted. • Mild steel • IP65 • Rotary Handle for lock-out • Mains isolator/circuit breaker • All fully labelled. • To suit Site Supply voltage=380V • Orange colour • DC Voltage and current outage readings <p>b. The protection, Interlock and control already exist from the switchgear, the contractor shall only provide field/local mains isolation and magnet isolation.</p> <p>c. Provision shall be made for self-cleaning magnet belt motor in terms of its own protection and control. Existing drawings of electrical reticulation to the magnets will be provided to the contractor for possible modifications to suit self-cleaning</p>	<p>Comply to IEC 60204-1</p>	<p>HOLD</p>	<p>CONTRACTOR</p>

TEST REPLACEMENT OF 8B AND 8F STATION MAGNETS AT MATLA POWER STATION

	<p>magnet, d. The panel shall have ON/OFF/De-energized etc indications.</p>			
1.5	<p>Transformer Rectifier Circuit requirements</p> <p>a. The contractor shall design, supply, and install the transformer rectifier unit with the following specs:</p> <ul style="list-style-type: none"> • Floor mounted. • Mild Steel • IP65 • Air/Oil cooled. • Solid-State Bridge Rectifier Unit • 380VAC input voltage to the transformer • Preferably 220VDC output voltage • Rectifier protection, preferably by HRC fuses suitable for rectifier application. <p>b. Comply with the requirements of IEC 60076-1, IEC 60076-2 and IEC 60076-3.</p> <p>c. A minimum set of taps for various voltage changes shall be incorporated in the transformer-rectifiers, to optimize the magnet's performance,</p> <p>d. A circuit diagram shall be permanently mounted on the enclosure and all items inside the enclosure shall be properly labelled to Eskom standard,</p> <p>e. Nameplate with all specifications shall be mounted on the outside of the enclosure.</p>		HOLD	CONTRACTOR
1.6	<p>Electromagnet Casing requirements</p> <p>a. All casing components shall be machined for good conductivity of the flux,</p> <p>b. The thickness of all casing components shall be specified by the supplier,</p> <p>c. The casing surface area shall be longer than the existing to allow the treatment time of magnet to attract mine picks,</p> <p>d. Unit 2 electromagnet magnet passes unit 1 magnet during manual cleaning and unit 4 electromagnet passes unit 3 electromagnet during manual cleaning; thus, the magnet design shall be such that in terms of dimensions unit 1 and 3 electromagnets shall not obstruct unit 2 and 4 during cleaning</p>		HOLD	CONTRACTOR

TEST REPLACEMENT OF 8B AND 8F STATION MAGNETS AT MATLA POWER STATION

	therefore U2(8B) shall be of self-cleaning type while U6(8F) shall be manual cleaning.			
1.7	<p>Electromagnet Coils requirements</p> <p>a. The coil conductors shall be insulated to class "H" of SABS IEC 60034-1 with class "F" temperature.</p> <p>b. The current density in the coil shall be conservatively rated to ensure minimum ampere-turns losses when the magnetic separator is operating at high temperatures,</p> <p>c. The magnetic field shall be of sufficient strength and shall be effective over the length of the magnet to provide the most efficient magnetic exposure time to the tramp iron.</p>		HOLD	CONTRACTOR
1.8	<p>Electromagnet support frame requirements</p> <p>a. The frame shall be constructed in such a way that it will be easily retrofitted to the existing structure.</p> <p>b. The contractor shall not modify the existing supporting structure,</p> <p>c. The frame shall be designed and constructed to comply with the requirements of GGSS 0407 and shall be of robust channel construction to prevent distortion and vibration in service.</p> <p>d. Robust suspension brackets shall be mounted directly on the supporting frame.</p> <p>e. Dual holes on each suspension bracket shall be provided for rigging purposes and for using a safety chain.</p> <p>f. The support frame shall have a minimum of four steel spacers shall be mounted directly under the magnetic separators to prevent the separators from coming into direct contact with the ground when they are stored.</p>		HOLD	CONTRACTOR
1.9	<p>Electromagnet Electrical Supply requirements</p> <p>a. Existing 3 phase,380V, 50Hz, 4 cores cables, 4mm² cable shall be used to supply the Panel.</p> <p>b. Existing single phase 220VDC, 2 core cables shall be used to supply the Electromagnet.</p>		HOLD	CONTRACTOR
1.10	<p>Suspension Tackle Set requirements.</p> <p>a. 4 X completely pre-assembled 1-Leg Chain Sling Assembly with chain-link-</p>		HOLD	CONTRACTOR

TEST REPLACEMENT OF 8B AND 8F STATION MAGNETS AT MATLA POWER STATION

	<p>adjustable grab hook which will allow for full length adjustment of chain, without requiring any turnbuckles.</p> <p>b. This shall come completely pre-assembled with SWL rating washer/tag and certificates to match.</p> <p>c. No cutting/joining on site is required.</p> <p>d. All suitably (over)rated for the mass of the electromagnet.</p> <p>e. Each Chain leg length shall be 1,5m, contractor shall come to site for measurements prior manufacture.</p> <p>f. Rope suspension set suitably rated(over) for electromagnet is also accepted as an alternative.</p>			
1.11	<p>Transportation requirements</p> <p>a. Contractor shall deliver and offload preferably two Electromagnets at the time to Matla Power Station.</p> <p>b. The contractor shall adhere to Eskom 240-56178825 for Transportation and Movement of Electrical Equipment Standard.</p> <p>c. The contractor shall ensure no harm or damage to the internal and external components of the magnet.</p> <p>d. The contractor is responsible for any damage and the employer shall request full replacement of components if deem necessary.</p> <p>e. The electrical tests (i.e. insulation resistance or winding resistance) will be conducted onsite and compare with FAT tests to ensure no damages during transportation.</p>		HOLD	CONTRACTOR
1.12	<p>Electromagnet Installation / Erection requirements</p> <p>a. As per 240-55864553 section 3.15 and contractor SOW based on the existing plant/structures.</p> <p>b. Contractor shall not modify the existing support structures, minor changes may be allowed, and it shall be communicated prior installation to Civil Engineering/employer for approval.</p> <p>c. If these changes are allowed by the employer, the contractor shall have or commit to be able to get a professional registered (Pr Eng Civil - Structures) person to ensure necessary structural measurements, testing, standards and/or precautions are taken and</p>		HOLD	CONTRACTOR

TEST REPLACEMENT OF 8B AND 8F STATION MAGNETS AT MATLA POWER STATION

	<p>followed.</p> <p>d. Contractor is fully responsible for any damages done during erection/installation of Electromagnets.</p> <p>e. Care shall be taken to not damage the conveyor belt and support structures.</p> <p>f. Ensure the magnet is aligned and perpendicular to the belt.</p> <p>g. The magnet shall be at suspended in accordance to the mean working distance of 300-325mm.</p> <p>h. The magnet when fully erected and aligned shall not attract any irons/metals beyond or below the conveyor belt.</p>			
1.13	<p>Electrical cabling, connections, and terminations requirements</p> <p>a. Contractor shall connect and terminate the existing 4mm² 4 cores supply cables from the switchgear to the local control panel and transformer rectifier circuit,</p> <p>b. The contractor shall provide cables for the self-cleaning magnet motor,</p> <p>c. It is assumed the self-cleaning magnet motor will feed from the same supply as the magnet,</p> <p>d. Contractor shall connect and terminate the existing single-phase cables from the transformer rectifier output to the suspended electromagnet terminal box,</p> <p>e. All the connection points which have compression/ cone/plain washers, bolts, nuts, and locknuts shall be appropriately sized,</p> <p>f. Grease shall be applied to all contact points to ensure good conductivity,</p> <p>g. All cable connections and terminations shall be in line with SANS 876.</p> <p>h. All electrical wiring and installation shall comply to SANS 10142,</p> <p>i. The local control panel and Transformer rectifier casing shall be appropriately earthed to the existing earthing point with correctly sized earth or copper bar.</p> <p>j. The wiring terminations shall be labelled, as per the approved designed circuit diagrams.</p>		HOLD	CONTRACTOR
1.14	<p>Electromagnet testing requirements (SAT/FAT)</p> <p>a. Existing electrical cables shall be tested before use,</p> <p>b. Transformer in accordance with</p>	As per 240-55864553 standard section 3.8 and 3.9,	HOLD	CONTRACTOR

TEST REPLACEMENT OF 8B AND 8F STATION MAGNETS AT MATLA POWER STATION

	<p>SANS 780, IEC 60076.</p> <ul style="list-style-type: none"> c. Rectifier tests, d. Winding resistances tests, e. Winding insulation tests, f. Gauss Factor Tests, g. Mean working distance measurements, h. Functional tests of electrical components, i. Tests with employer's type of coal and mine picks, j. Any other recommended tests. 			
1.15	<p>Electromagnet Recommissioning requirements</p> <ul style="list-style-type: none"> a. Employer shall ensure all circuits which were placed out of service for isolation purposes which are on Eskom side are de-isolated and energized, b. Contractor shall commission the electromagnets and perform live testing of the magnet as per 240-55864553 standard, c. Rectifier output voltage shall be at least the same as the electromagnet input voltage, d. Contractor shall measure the mean working distance before and after cleaning of the electromagnet to ensure the electromagnet has not moved out of position during manual cleaning, e. Contractor shall evenly place employer type dry coal on the conveyor belt before the electromagnet and tramp iron(s) beneath the coal and run the belt to test the integrity or performance of the electromagnet, f. Contractor shall evenly place employer type wet coal on the conveyor belt before the electromagnet and tramp iron(s) beneath the coal and run the belt to test the integrity or performance of the electromagnet, g. Employer shall perform visual and quality inspection, and thermos scans on all components to ensure plant is fully serviceable. 		HOLD	CONTRACTOR
1.16	<p>Documentation and Plant Configurations requirements</p> <ul style="list-style-type: none"> a. Contractor shall use the exiting KKS/AKZ and cable tags to label the plant and components, b. Contractor shall provide As-Built 		HOLD	CONTRACTOR

TEST REPLACEMENT OF 8B AND 8F STATION MAGNETS AT MATLA POWER STATION

	updated detailed drawings for the local control panel, magnet and transformer rectifier circuit for approval before manufacturing.			
1.17	<p>Documentation and Handover requirements</p> <ul style="list-style-type: none"> a. Contractor shall ensure all QCPs are signed and updated for submission to the client prior handover of the project, b. The contractor documentation to submitted shall include technical datasheets and tests reports, c. Issuing of CoC for the local control panel installation, d. Before the final handover, the contractor shall give Matla Power Station at least 1 week for service performance, this is for the employer to ensure that there are no mine picks rejected by the mills. 		HOLD	CONTRACTOR
1.18	<p>Maintenance strategy requirements</p> <ul style="list-style-type: none"> a. Contractor shall handover the maintenance manuals and other support documentation for the electromagnets and panels, b. Contractor shall list BOM of all components/equipment's together with the technical data specifications, part numbers, and Manufacture, c. Together with the above, the contractor shall provide spares for components, I.e., fuses, MCBs, diode, etc. 		HOLD	CONTRACTOR
1.19	<p>Operating strategy requirements</p> <ul style="list-style-type: none"> a. The electromagnets are already interlocked to the conveyor belt from the switchgear and no further interlocking is required from the contractor, b. The existing operational and sequence philosophy of conveyor belts and electromagnets will not change, c. The existing remote/local control operational philosophy of Electromagnets will remain the same, d. The existing electromagnet manual cleaning and demagnetization control circuit operational philosophy will remain the same, e. Contractor shall only provide operational instructions for local control panel, 		HOLD	CONTRACTOR

TEST REPLACEMENT OF 8B AND 8F STATION MAGNETS AT MATLA POWER STATION

	<p>f. Contractor shall provide operational training to the Operators and electrical technicians/artisans.</p>			
1.20	<p>Operation requirements</p> <p>a. The Electromagnet shall attract tramp irons,</p> <p>b. The Electromagnet shall attract even burden tramp irons,</p> <p>c. The Electromagnet cooling fins shall be sufficient enough to cool the magnet,</p> <p>d. The Electromagnet shall not attract tramp irons beyond the belt width and below the belt,</p> <p>e. The Electromagnet shall not move away from its belt position after cleaning,</p> <p>f. The manual cleaning Electromagnet shall only be de-energized when it is moved against the existing terminal switch at the end of the crawl beams,</p> <p>g. The Electromagnet shall remain on its mean working distance position to the belt 300-325mm,</p> <p>h. The Electromagnet shall have light indicators for ON/OFF/TRIP and Volts/Amps readings on the local control panel,</p> <p>i. If the Electromagnet trip, it shall trip the conveyor belt,</p> <p>j. The Electromagnet Rectifiers shall not overheat and shall dissipate heat onto the heatsink or oil if the rectifier circuit is oil cooled,</p> <p>k. The Electromagnet Rectifier Voltage Output shall be smooth and not fluctuate.</p>		HOLD	CONTRACTOR
	<p>Waste Storage And Transportation</p> <p>a. The existing discharge chute for storing mine picks during magnet cleaning/demagnetization shall be used and transportation and deposit of these tramp irons strategy shall remain the same.</p>			Contractor
	<p>System Safety requirements</p> <p>a. The Contractor ensures safety awareness at all times and supplies employers with adequate PPE.</p> <p>b. All equipment shall be inspected by Matla Safety department for acceptance.</p> <p>c. The Contractor is appointed to act</p>		HOLD	CONTRACTOR

	<p>on behalf of the Employer in terms of the Occupational Health and Safety Act no 85 of 1993. All of the Contractor's staff complies with the Matla Site health and safety requirements titled "Contractor's Health and Safety Requirements in carrying out its obligations to the Employer in terms of this contract; in providing the Works; in using plant, Materials and Equipment; and while at the Site for any reason, the Contractor complies, procures and ensures the compliance by its employees, agents, Subcontractors and mandatories.</p> <p>d. The Contractor ensures that all statutory appointments and appointments required by any Eskom Regulations are made and that all appointees fully understand their responsibilities and competent to execute their duties.</p> <p>e. The Employer, or any person appointed by the Employer, may, at any stage during the currency of this contract May:</p> <ul style="list-style-type: none"> • Conduct health and safety audits regarding all aspects of compliance with the SHEQ Requirements, at any off-site place of work, or the site establishment of the Contractor; Refuse any employee, Subcontractor or agent of the Contractor access to the premises if such person has been found to commit an unsafe act or any unsafe working practice or is found not to be qualified or authorised in terms of the SHEQ Requirements: • Issue the Contractor with a stop order should the Employer become aware of any unsafe working procedure or condition or any non-compliance with any provision of the SHEQ Requirements. <p>f. The Contractor appoints a person, qualified in accordance with the SHEQ Requirements, as the liaison with the Eskom Safety Officer for all matters related to health and safety,</p> <p>g. Matla power station induction must be done before any work commences.</p>			
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TEST REPLACEMENT OF 8B AND 8F STATION MAGNETS AT MATLA POWER STATION

	<ul style="list-style-type: none"> h. Permit to work must be in place before any work commences. i. Worker's register must be completed, and daily risk assessment conducted before any work commences. 			
	<p>Environment requirements</p> <ul style="list-style-type: none"> a. All activities listed in the National Environmental Act 107 of 1998, EIA Regulations as amended, must have environmental AUTHORISATION before commencement of work. b. The contractor shall comply with all applicable legal and other requirements. c. The polluter pays principle will be applied. d. The contractor manager shall ensure compliance with Eskom Matla Environmental procedures to ensure the prevention of pollution (refer: OMOP 4090 and 4402). e. The last payment will be processed based on the status of the last housekeeping check sheet (Annexure C: OMOP 4402) of designated area. f. EMS file based on ISO14001 will be required. 		HOLD	CONTRACTOR
	<p>Quality Management Requirements</p> <p>The Contractor conforms to the following Quality Management requirements:</p> <ul style="list-style-type: none"> a. The quality requirements are as per ISO 9001 and Eskom Quality Standard QM 58. b. The requirements of the Eskom Weld Rulebook (240 – 43156827) shall be adhered to. c. Documents submitted for review and acceptance by the Project Manager after the Contract Date and prior to the commencement of work are referred to in QM 58 section 3.5.2. d. The Contractor submits a fully detailed Quality Control Plan for acceptance within four weeks of the Contract Date. e. No work is allowed on Site unless the Employer accepts the Quality Control Plan. f. The Contractor utilises the Employer's quality documentation forms for requesting access, erection checks etc. These request forms are to be submitted to the Supervisor at least one week prior to the requested activity, or as agreed to by the Project Manager. g. Apart from any statutory data 		HOLD	CONTRACTOR

TEST REPLACEMENT OF 8B AND 8F STATION MAGNETS AT MATLA POWER STATION

	<p>packages required, the Contractor also compiles a data package of the relevant drawings, test certificates, CoC etc. for each section of work which is to be reviewed and signed off by the Supervisor at erection check stage prior to the commencement of the commissioning phase,</p> <p>h. The Contractor is responsible for defining the level of QA/QC or inspection to be imposed on his Subcontractors and suppliers of material. This level should be based on criticality of Plant and Material and be submitted to the Project Manager for acceptance.</p> <p>i. The Contractor submits a schedule of unpriced orders to be placed that is updated monthly.</p> <p>j. The Contractor shall provide the QCP/ITP for review and acceptance by Eskom prior to the commencement of any work.</p> <p>k. The Contractor submits a quality report in accordance with the requirements of QM 58.</p>			
	<p>Procurement requirements The Contractor procures all Plant and Materials required for constructing, installing and commissioning the works. The Contractor:</p> <p>a. Advises the Project Manager in advance of all major shipments of Plant and Material and coordinates with the Employer the arrival, off-loading and release of such. The Contractor promptly unloads its shipments and promptly releases carrier equipment.</p> <p>b. Notifies the Project Manager of being unable to promptly unload any shipment not less than 5(five) days prior to arrival. The Project Manager, at his option, off-loads or decides for others to off-load such shipments for the account and risk of the Contractor. Costs incurred in respect of off-loading will be for the Contractor's account.</p> <p>c. Ensures that all the Plant and Materials are inspected. The Contractor notifies the Project Manager who instructs designated Employer's</p>		<p>HOLD</p>	<p>CONTRACTOR</p>

TEST REPLACEMENT OF 8B AND 8F STATION MAGNETS AT MATLA POWER STATION

	representatives to inspect the Plant and Materials at the factory, or the Contractor's premises, before it is transported to the Site			
	Construction requirements The Contractor manufactures, fabricates, and assembles the Plant and Materials in accordance with the Employer's 240-55864553 standards and specifications as listed in section 3.3.	240-55864553 standards and specifications as listed in section 3.3.		CONTRACTOR
	House Keeping requirements. a. The Contractor shall ensure that the Site is cleaned daily. b. All Equipment is packed neatly without interference to access. c. All excess scaffolding material is removed from Site after the scaffolding is erected. d. Scrap bins are made available by the Contractor to store any scrap and debris at the Site and the Contractor is responsible for their removal to the designated scrap area daily.		HOLD	CONTRACTOR

RE-COMMISSION

	SCOPE OF WORK DESCRIPTION / ACTIVITY	PROCEDURE, SPECIFICATION, ENG. REQUIREMENTS / DOCUMENTATION	HOLD POINTS, WITNESS, REPORTS	RESPONSIBLE PARTY
1.1	<ul style="list-style-type: none"> Re-commission all circuits which were placed out of service for maintenance purposes. 	All workers shall need to have signed out and the responsible permit holder shall satisfy himself that there are no people still working on the line prior to energization as per PSR (36-681).	OPS & EMD to witness	OPS
1.2	<ul style="list-style-type: none"> Equipment used for earthing and isolation. 	PTM shall ensure that all relevant equipment used for earthing and isolating is removed as per PSR (36-681) requirements and accounted for prior to energization of the line.	OPS and EMD to ensure all permits are cleared and the plant is in service.	OPS & EMD

SCOPE COMPILATION REFERENCES				
SOURCE & Ref No.	Yes	No	N/A	Comments
Previous outage service reports				
Return to service data packages				
Maintenance Strategy with Rev number				
SAP defects (attach list as appendix)				
GHRMS (STEP) reports (Generation Heat Rate Management System)				
Online Condition Monitoring				
Pre-outage performance test results				
Post outage performance test results				
GPSS/ Plant Performance data on UCLF incurred				
OMS / IIRMS recommendations (Audits Reports)				
Risk controls (IRM system)				
Previous audits and reviews (e.g. ERAP)				
Engineering Change Requests (Projects)				
LOPP strategy reports				
URS				
Philosophy (Outage)				
Condition Monitoring Report				
VA/PHD Viewer trends				
Corrective Actions				
CARAB reports				
Statutory Requirements				
Grid code requirements				
Waivers and Exemptions				
Calibration requirements				
Previous Outage SOW variations				
Post Mortems Actions from previous outages				
Pre-Outage plant walks				
Risk based inspection (RBI) report				
Simulation, TOIs, OON, SI				

2. Drawings

N/A

3. Specifications

Title	Date or revision	Tick if publicly available
<u>General Specifications:</u>		

Health and Safety Specifications for Contracting Companies	OMOP 2605	Yes
Eskom Life Saving Rules	32-421	Yes
Construction Regulations	32-136	Yes
Conflict of Interest Policy	32-173	Yes
Plant Safety Regulations		Yes
<u>Technical specifications</u> As per Engineering Scope of Works		
<u>SANS 10044-3 Welding Part 3: The fusion welding of steel (including stainless steel): Tests for the approval of welding procedures and production welds 1983 2</u>	1983 : 2	Yes
<u>SABS 044-4 Welding Part 4: The fusion welding of steel (including stainless steel): Tests for the approval of welders working to approved welding procedures</u>	1983 : 2	Yes
<u>SANS 10120-2 HC</u> <u>Code of practice for use with standardized specifications for civil engineering construction and contract documents</u> <u>Part 2: Project specification Section</u> <u>HC: Corrosion protection of structural steelwork</u>	1988 : 1	Yes
<u>SANS 121 ISO 1461 Hot dip galvanized coatings on fabricated iron and steel articles - Specifications and test methods</u>	2000 : 1.01	Yes
<u>SANS 5865 Concrete tests - The drilling, preparation, and testing for compressive strength of cores taken from hardened concrete</u>	1994 : 2	Yes
<u>SANS 5861-3 Concrete tests - Making and curing of test specimens</u>	1994 : 2	Yes

1.2 Employer's objectives and purpose of the works

The Suspended Electromagnets are used at Matla Power Station coal plant to attract tramp irons or mine picks during coaling to the coal bunkers. For efficient use, the magnets are interlocked to the conveyor belts such that the conveyor belt cannot start without the magnet being energized. Tramp irons that are attracted by the magnet are manually cleaned via a control circuitry with the help of trolleys beams, the operation takes ~90s and coaling is stopped during magnet demagnetization. 380VAC is fed from the switchgear to the 380/180VAC transformer and then 180VAC/220VDC rectifier circuit that feeds the Electromagnets with 220VDC to create magnetic fields that attract tramp irons. 8B electromagnet at unit 2 will be of self-cleaning type while U6 will be of manual cleaning.

1.3 Interpretation and terminology

Refer to Scope of work section.

2 Management and start up.

2.1 Management meetings

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

Title and purpose	Approximate time & interval	Location	Attendance by:
Risk registers and compensation events	To be agreed at kick off meeting		<i>Employer, Contractor,</i>
Overall contract progress and feedback	To be agreed at kick off meeting		<i>Employer, Contractor,</i>
Progress meetings	To be agreed at kick off meeting		<i>Employer, Contractor,</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 or a register prepared and circulated by the person who convened the meeting. Such minutes or register shall not be used for the purpose of confirming actions or instructions under the contract as these shall be done separately by the person identified in the *conditions of contract* to carry out such actions or instructions.

2.2 Documentation control

Documents will be identified with an alpha numeric which indicates source, recipient, communication number. All communication from the Contractor to the Employer must be in writing and addressed to the Project Manager

2.3 Health and safety risk management

The *Contractor* shall comply with the health and safety requirements contained in the Works Information.

2.4 Environmental constraints and management

The Contractor shall ensure that the works activities are executed in a manner that will not cause potential harm to the environment.

2.5 Quality assurance requirements

The *Contractor* shall be required to demonstrate by means of a Quality Plan that this organisation is so structured that all the requirements of the specification will be properly monitored and controlled. The Quality Plan and Control procedures are to be carried out in accordance with the Quality Control document NWS 1841/C1 and the Matla Quality Manual for *Contractor*. The Quality Control document is to be submitted for approval to Matla Engineering within three (3) days after order placement by the *Contractor*.

No work may commence unless the Quality Control document has been approved in writing and a copy submitted to *the Employers Representative*. *The Contractor*, in conjunction with Matla Engineering must sign

off all Quality Control documents after completing all work on site. *The Contractor* to submit a copy of the final signed off document to *the Employers Representative* within 1 week after Completion of the works.

2.6 Programming constraints

The Contractor will provide a detailed programme every third day during the project or as requested by the *Employers Representative*. The *Employer* may terminate a contract if a detailed programme is not submitted as requested by the *Employers Representative*. The final contract programme and breakdown will be agreed upon within three (3) days after order placement by the *Employer* & the *Contractor*.

The Contractor will provide a detailed programme every third day during the project or as requested by the *Employers Representative*. The *Employer* may terminate a contract if a detailed programme is not submitted as requested by the *Employers Representative*. The final contract programme and breakdown will be agreed upon within three (3) days after order placement by the *Employer* & the *Contractor*.

- More than R350 000,00

- Computerized logic network
- Network barchart
- Time analysis (print out listing)
- Weekly updated critical activities report
- Weekly updated resource report
- Weekly updated interface dates with other Contractors.

- Activities on critical path

On request from the *Employers Representative* for work on critical path the *Contractor* must submit

- Computerized programme twice a week.
- However, should a logic change been executed by the *Contractor*, A revised network, bar-chart and time analysis must be submitted by the *Contractor*.
- Key dates are considered as part completion dates and failure by the *Contractor* to meet those dated could result in the imposition of penalties by Eskom.
- If any difficulties are foreseen in complying with the requirements of this document, these must be resolved with the *Employers Representative* before the tender is submitted.

2.7 Contractor's management, supervision, and key people

The Contractor shall ensure that the key people required to execute the Works are available at all times and that the correct supervision (Safety, Quality and otherwise) is applied throughout the execution of the work.

2.8 Invoicing and payment

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

The *Contractor* shall address the tax invoice to Eskom Holdings SOC Ltd and include on each invoice the following information:

Name and address of the *Contractor* and the *Project Manager*.

The contract number and title; **REPLACEMENT OF INCLINE 8B AND 8F SUSPENDED ELECTROMAGNETS AT MATLA POWER STATION.**

Contractor's VAT registration number;

The *Employer's* VAT registration number 4740101508;

Description of service provided for each item invoiced based on the Price List;

Total amount invoiced excluding VAT, the VAT and the invoiced amount including VAT;

(add other as required)

All invoices are to be submitted to the Employer's Finance Department for processing.

2.9 Insurance provided by the *Employer*.

Refer to clause 84 of this contract.

2.10 Contract change management.

Compensation events shall be managed in line with clauses 60, 61, 62, 63, 64 and 65 of the NEC3 Engineering Construction Contract.

2.11 Provision of bonds and guarantees.

Not applicable

2.12 Records of Defined Cost, payments & assessments of compensation events to be kept by the *Contractor*.

Not applicable

2.13 Training workshops and technology transfer

Not applicable

3 Engineering and the *Contractor's* design

3.1 *Employer's* design

Contractor shall do physical measurement verification on site and not use the design drawings submitted to them as final.

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

- Fabrication drawings and AS Built drawings
- Signs for loading indications

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

3.4 Other requirements of the *Contractor's* design

Not applicable

3.5 Use of *Contractor's* design

Not applicable

3.6 Design of Equipment

Not applicable

3.7 Equipment required to be included in the *works*.

Contractor shall submit all the list of tools to be used prior commencement of the works for acceptance.

3.8 As-built drawings, operating manuals, and maintenance schedules

As built drawings are required from the contractor.

4 Procurement

4.1 People

4.1.1 Minimum requirements of people employed on the Site.

Not applicable unless otherwise stated in the works information.

4.1.2 BBBEE and preferencing scheme

Not applicable

4.1.3 Accelerated Shared Growth Initiative – South Africa (ASGI-SA)

Not applicable

4.2 Subcontracting

4.2.1 Preferred subcontractors

ECC does not make use of nominated subcontracting, but the *Employer* may list which subcontractors or suppliers the *Contractor* is required to enter into subcontracts with. This is usually only required where Plant and Materials need to be obtained from a particular supplier or group of suppliers in order to comply with operational standards.

4.2.2 Subcontract documentation, and assessment of subcontract tenders

Specify any constraints on how the *Contractor* is to prepare subcontract documentation, whether use of the NEC system is compulsory or not (compulsory is recommended) and how subcontract tenders are to be issued, received, assessed (using a joint report?) and awarded.

4.2.3 Limitations on subcontracting

The *Employer* may require that the *Contractor* must subcontract certain specialised work, or that the *Contractor* shall not subcontract more than a specified proportion of the whole of the contract.

4.2.4 Attendance on subcontractors

State requirements for attendance on Subcontractors if any

4.3 Plant and Materials

4.3.1 Quality

The *Contractor* shall be required to demonstrate by means of a Quality Plan that this organisation is so structured that all the requirements of the specification will be properly monitored and controlled. The Quality Plan and Control procedures are to be carried out in accordance with the Quality Control document NWS 1841/C1 and the Matla Quality Manual for *Contractor*. The Quality Control document is to be submitted for approval to Matla Engineering within three (3) days after order placement by the *Contractor*.

No work may commence unless the Quality Control document has been approved in writing and a copy submitted to *the Employers Representative*. *The Contractor*, in conjunction with Matla Engineering must sign

off all Quality Control documents after completing all work on site. *The Contractor* to submit a copy of the final signed off document to *the Employers Representative* within 1 week after Completion of the works.

4.3.2 Plant & Materials provided “free issue” by the *Employer*.

The Employer will issue tubes to the Contractor. Any other plant and material required to complete the Works will be the responsibility of the Contractor, unless otherwise stated in the Works Information

4.3.3 *Contractor’s* procurement of Plant and Materials

Not applicable, any other plant and material required to complete the Works will be the responsibility of the Contractor, unless otherwise stated in the Works Information

4.3.4 Spares and consumables.

Any other spares and material required to complete the Works will be the responsibility of the Contractor, unless otherwise stated in the Works Information

4.4 Tests and inspections before delivery

Not applicable

4.5 Marking Plant and Materials outside the Working Areas

Not applicable

4.6 *Contractor’s* Equipment (including temporary works).

It is the Contractor’s responsibility to safeguard his Equipment onsite and offsite for the whole duration of the contract.

4.7 Cataloguing requirements by the *Contractor*

Not applicable

5 Construction

5.1 Temporary works, Site services & construction constraints

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

The works is within the security area of the Power Station and access to the site will be governed by the terms and conditions laid down by the Station Security Officials from time to time. The *Contractor* shall satisfy himself as to these terms and conditions and shall price his works accordingly.

The *Contractor* shall liaise with the Power Station Security Staff in order to obtain temporary permits for his staff and vehicle, which will be working within the Station.

With the exception of Construction Plant the *Contractor* shall be restricted to having only one other vehicle on site for transporting his employees and materials. Any other need is to be granted by the *Employers Representative*.

Personnel and vehicles entering and leaving the site are subject to routine searches and substance abuse testing.

TEST REPLACEMENT OF 8B AND 8F STATION MAGNETS AT MATLA POWER STATION

The *Contractor* will have to obtain a “gate permit” from the *Employers Representative*, before materials and equipment can be removed from the site. The “gate permit” gives an itemized list of materials and equipment to be removed from site.

The *Contractor* shall make his own assessment of and shall allow in his rates for those access problems which may be encountered and no extra payment or claim of any kind will be allowed on account of difficulties of access to the Works.

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

The *Contractor* shall comply with the restrictions to access on site, roads, walkways and barricades according to the site specifications.

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

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

5.1.4 Health and safety facilities on Site

The *Contractor* shall comply with

- The Occupational Health and Safety Act, 1993, and all regulations made there under;
- All Eskom Safety and Operating Procedures.

The *Contractor* acknowledges that it is fully aware of the requirements of all the above and undertakes to employ only people who have been duly authorised in terms thereof and who have received sufficient safety training to ensure that they can comply therewith.

The *Contractor* undertakes not to do, or not to allow anything to be done which will contravene any of the provisions of the Act, Regulations or Safety and Operating Procedures.

The *Contractor* shall appoint a person who will liaise with the Eskom Safety Officer responsible for the premises relevant to this contract.

Do safety audits at the *Contractor's* premises, its work-places and on its employees;

Refuse any employee, sub-contractor or agent of the *Contractor* access to its premises if such person has been found to commit any unlawful act or any unsafe working practice or is found to be not authorised or qualifies in terms of the Act;

Issue the *Contractor* with a work stop order or a compliance order should Eskom become aware of any unsafe working procedures or conditions or any non-compliance with the Act, Regulations and Procedures referred to in 1 above by the *Contractor* or any of its employees, sub-contractors or agents.

The *Contractors* safety file is to be submitted for approval to Matla's Safety Officer within three (3) days after order placement.

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

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 2003 (promulgated under the Occupational Health & Safety Act 85 of 1993) (“the Construction Regulations”) for the Site;

TEST REPLACEMENT OF 8B AND 8F STATION MAGNETS AT MATLA POWER STATION

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

5.1.6 Title to materials from demolition and excavation

Not applicable.

5.1.7 Cooperating with and obtaining acceptance of Others

Not applicable

5.1.8 Publicity and progress photographs

Not applicable.

5.1.9 Contractor's Equipment

This contractor will take full responsibility of safe keeping his Equipment on Site whether it is owned or hired.

5.1.10 Equipment provided by the Employer

5.1.11 Site services and facilities

Item	Date by which it will be provided
<p>Water connection /. Disconnection point. Water will be made available on request free of charge from water points on site. The <i>Contractor</i> will supply at his own cost all the necessary connections, fittings, piping etc. for this facility. Eskom does not guarantee continuity of supply and quality of the water and the <i>Contractor</i> shall make his own arrangements for alternative supplies where required. Any breakdown or reduction in the water supply will not be grounds for claims for additional time or compensation. Should the <i>Contractor</i> have any particular requirements with respect to water quality or supply these must be stated in his tender.</p>	
<p>Electricity connection / disconnection. The <i>Contractor</i> to provide all necessary cabling, Certificate of Compliance (COC) etc. Electricity will be made available for construction purposes free of charge from power points, which will be indicated by the <i>Employers Representative</i>. The <i>Contractor</i> will be made responsible for the provision of the reticulation system from the point of supply. Both 220 (AC) Volt and 380 Volt (AC) are available on request. The <i>Contractor's</i> requirements are to be stated in his tender. Eskom does not guarantee the quality of supply of the power and the <i>Contractor</i> shall make his own arrangements for alternative supplies where required. Any breakdown or reduction in the power supply will not be grounds for claims for additional time or compensation.</p>	
<p>Site yard. A site will be made available to the contractor for his yard within the Power Station security area, but not adjacent to the work (the exact location is to be determined on site). The yard is to be considered as a raw site and the <i>Contractor</i> will arrange for temporary services.</p>	
<p>Scaffolding and insulation.</p>	

<p>Gas test and environmental certificate.</p>	
<p>Sanitary facilities and refuse. The <i>Contractor</i> is to supply own sanitary facilities at his Contractor's yard. Eskom's sanitary facilities may be used as directed by the <i>Employers Representative</i>. A refuse control system will be established by the <i>Contractor</i>. All waste and refuse shall be collected and disposed of as directed by the <i>Employers Representative</i>, at the Matla Power Station refuse disposal site.</p>	

5.1.12 Facilities provided by the Contractor

The *Contractor* shall provide everything required to execute the scope of work as defined in the works information.

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

Not applicable

5.1.14 Survey control and setting out of the works

Not applicable

5.1.15 Excavations and associated water control

Not applicable

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

Not applicable

5.1.17 Control of noise, dust, water, and waste

The Contractor shall ensure that they use proper protective equipment's not to be exposed to noise and dust around their work area. Waste management procedure to be followed accordingly.

5.1.18 Sequences of construction or installation

Not applicable

5.1.19 Giving notice of work to be covered up

Not applicable

5.1.20 Hook ups to existing works

Hook up at height safety procedure to be followed during the execution of the Works

5.2 Completion, testing, commissioning and correction of Defects

5.2.1 Work to be done by the Completion Date

On or before the Completion Date the *Contractor* shall have done everything required to Provide the Works except for the work listed below which may be done after the Completion Date but in any case before the dates stated. The *Project Manager* cannot certify Completion until all the work except that listed below has

been done and is also free of Defects which would have, in his opinion, prevented the *Employer* from using the *works* and Others from doing their work.

	Item of work	To be completed by
	None	

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

Not applicable

5.2.3 Materials facilities and samples for tests and inspections

Not applicable

5.2.4 Commissioning

Commissioning of the Works will be done before handing over the completed scope of work by the Contractor, witnessed by the *Employer*.

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

Not applicable

5.2.6 Take over procedures

Take over is after or at the same time as Completion. The *Employer* may require the *Contractor* to provide assistance during hand over and data packs to be submitted.

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

The *Project Manager* arranges for the *Employer* to allow the *Contractor* access to and use of a part of the *works* which has been taken over if needed to correct a Defect. After the *works* have been put into operation, the *Employer* may require the *Contractor* to undertake certain procedures before such access can be granted (for example applying for a plant to be safe)

5.2.8 Performance tests after Completion

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

5.2.9 Training and technology transfer

Not applicable

5.2.10 Operational maintenance after Completion

Not applicable

Plant and Materials standards and workmanship

5.3 Investigation, survey, and Site clearance

Not applicable

5.4 Building works

Not applicable

5.5 Civil engineering and structural works

See Specification Table above

5.6 Electrical & mechanical engineering works

Not applicable

5.7 Process control and IT works

Not applicable

5.8 Safe plant isolations

It is the *Contractor's* responsibility to liaise with the *Employers Representative* in respect of safe plant isolations and all Eskom plant to be considered as live unit, such liaison is confirmed in writing.

The contractor to ensure that they have responsible personnel authorised under Eskom plant safety regulations. Eskom to provide training to the contractor's representative.

1 List of drawings

1.1 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.

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

Core clause 11.2(16) states

“Site Information is information which

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

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

General description

The Matla Power Station is situated approximately halfway between Bethal and Ogies on the R545, being just over 30 km from each town and 13 km north-west of Kriel town.

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

The works is within the existing power plant (Unit 1 – 6).

Subsoil information

Not Applicable

Hidden services

Not applicable

Other reports and publicly available information

Not Applicable

Communication

The *Contractor* shall address all communications (after contract award) including telefaximilies to:

Project Manager
Matla Power Station
Private Bag X5012
Kriel
2271
Att :

All communications from the *Contractor* shall carry the Enquiry Number or Contract Number after Contract Award, as well as the Title of the Works. All communication by the *Contractors* shall go through the buyer.

They shall be headed with the subject of the communications and be numbered sequentially on the basis of the subject of the communication.

No recruiting is allowed on Eskom property. (Eskom property includes the area outside the main security gate).

Supplier Development and localization

Corporate Social Investment (CSI)

The Contractor shall spend 2% of contract value on CSI. The list of CSI projects will be provided by Matla Power Station.

Supplier Development and localization (SD&L)

Skilled and non-skilled employees.

The Contractor will develop local skilled labour at Kriel. The Contractor shall hire non-skilled employees from Kriel community using the employment hub established by Eskom and the community.