NEC3 Engineering & Construction Contract

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

(Reg No.)

for **Sludge Sump Refurbishment**

Contents:		**No of pages**
Part C1	**Agreements & Contract Data**	**24**
Part C2	**Pricing Data**	**2**
Part C3	**Scope of Work**	**32**
Part C4	**Site Information**	**1**

CONTRACT No.

Part C1: Agreements & Contract Data

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: **Sludge Sump refurbishment**

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 B, C or D	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]	
	(in words)	

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

Signature(s) .....

Name(s) .....

Capacity .....

For the tenderer: .....

(Insert name and address of organisation)

Name & signature of witness .....

Date .....

Tenderer's CIDB registration number (if applicable) .....

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

Acceptance

By signing this part of this Form of Offer and Acceptance, the *Employer* identified below accepts the tenderer's Offer. In consideration thereof, the *Employe*r 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	General Manager		
for the Employer	Eskom Matla Power Station		
	(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	**CSI (Cooperate Social Investment)**	The *Contractor* shall spend 2% of contract value on CSI. The list of CSI projects will be provided by Matla Power Station.
2	**Skilled and non-skilled employees**	The *Contractor* will develop local skilled labour at Kriel. The *Contractor* shall hire non-skilled employees from Kriel community. The list of potential employees from Kriel community will be provided by Matla Power Station.

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	.....	General Manager
On behalf of	..... *(Insert name and address of organisation)*	..... Matla Power Station Private Bag X5012 Kriel, 2271
Name & signature of witness	.....	.....
Date	.....	.....

C1.2 ECC3 Contract Data

Part one - Data provided by the *Employer*

Clause	Statement	Data
1	**General**	
	The *conditions of contract* are the core clauses and the clauses for main Option	
		A: Priced contract with activity schedule
	dispute resolution Option	**W1: Dispute resolution procedure**
	and secondary Options	
		X2 Changes in the law
		X5 Sectional Completion
		X7 Delay damages
		X13 Performance Bond
		X16 Retention
		X 17 Low performance damages
		X18: Limitation of liability
		Z: *Additional conditions of contract*
10.1	of the NEC3 Engineering and Construction Contract, April 2013 (ECC3)	
10.1 10.1	The *Employer* 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**
10.1 10.1	Address	**Registered office at Megawatt Park, Maxwell Drive, Sandton, Johannesburg**
	The *Project Manager* is: (Name)	
	Address	**Matla Power Station Delmas Road Kriel 2271**
	Tel	**013 699 7871**
	Fax	**N/A**
10.1	e-mail	

	The *Supervisor* is: (Name)	
	Address	**Matla Power Station** **Delmas Road** **Kriel** **2271**
	Tel No.	
	Fax No.	**N/A**
11.2(13)	e-mail	
11.2(14)	The *works* are	
11.2(15)	The following matters will be included in the Risk Register	**1. Non-compliance to statutory SHE and legal requirement which could result to injuries, near misses and penalties.** **2. Poor system performance due to poor workmanship** **3. Excessive dust** **4. Disease outbreak** **5. Covid-19**
11.2(16)	The *boundaries of the site* are	**Matla Power Station**
11.2(19)	The Site Information is in	**Part 4: Site Information**
12.2	The Works Information is in	**Part 3: Scope of Work and all documents and drawings to which it makes reference.**
13.1	The *law of the contract* is the law of	**the Republic of South Africa**
13.3	The *language of this contract* is	**English**
2	The *period for reply* is	**3 working days**
3	**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.**
	Time	
11.2(3)		
11.2(9)	The *completion date* for the whole of the *works* is	

	The *key date*s and the *condition*s to be met are:		***Condition* to be met**	***key date***
		1	**Site establishment**	**As per accepted programme**
		2	**Cleaning of Sump**	
30.1		**3**	**Civil works**	

		4	**Mechanical Worls**	
		5		
	The *access dates* are:	**Part of the Site**		**Date**
31.2		**1**	**Matla Power station**	**After contract award**
32.2	The *starting date* is			
35.1	The *Contractor* submits revised programmes at intervals no longer than	**2 days during project execution and once a week during procurement and engineering**		
4	The *Employer* is not willing to take over the *works* before the Completion Date.	**Full takeover must be from commissioning of the works**		
42.2	**Testing and Defects**			
43.2	The *defects date* is	**52 weeks after Completion of the whole of the *works*.**		
	The *defect correction period* is	**1 weeks**		
	except that the *defect correction period* for	**Production loss and SHE requirements is 24hrs**		
5	and the *defect correction period* for	**Low risk (as determined by the *Employer*) is 1 week**		
50.1	**Payment**			
51.1	The *assessment interval* is	**By the 25 days of each successive month.**		
51.2	The *currency of this contract* is the	**South African Rand.**		
51.4	The period within which payments are made is	**30 days from the date of submission of the invoice**		
6	The *interest rate* is	**the publicly quoted prime rate of interest (calculated on a 365 day year) charged from time to time by the Standard Bank of South Africa Limited (as certified, in the event of any dispute, by any manager of such bank, whose appointment it shall not be necessary to prove) for amounts due in Rands and** **(ii) the LIBOR rate applicable at the time for amounts due in other currencies. LIBOR is the 6 month London Interbank Offered Rate quoted under the caption "Money Rates" in The Wall Street Journal for the applicable currency or if no rate is quoted for the currency in question then the rate for United States Dollars, and if no such rate appears in The Wall Street Journal then the rate as quoted by the Reuters Monitor Money Rates Service (or such service as may replace the Reuters Monitor Money Rates Service) on the due date for the payment**		

		in question, adjusted *mutatis mutandis* every 6 months thereafter and as certified, in the event of any dispute, by any manager employed in the foreign exchange department of The Standard Bank of South Africa Limited, whose appointment it shall not be necessary to prove.
60.1(13)	**Compensation events**	
	The place where weather is to be recorded is:	**Matla Power Station main security area**
	The *weather measurements* to be recorded for each calendar month are,	**the cumulative rainfall (mm)** **the number of days with rainfall more than 10 mm** **the number of days with minimum air temperature less than 0 degrees Celsius** **the number of days with minimum air temperature more than 35 degrees Celsius** **the number of days with snow lying at 09:00 hours South African Time** **and these measurements:**
	The *weather measurements* are supplied by	**South African Weather Bureau**
	The *weather data* are the records of past *weather measurements* for each calendar month which were recorded at:	**Matla Power Station and surroundings**
60.1(13)	and which are available from:	**the South African Weather Bureau and included in Annexure A to this Contract Data provided by the *Employer***
8	Assumed values for the ten year return *weather data* for each *weather measurement* for each calendar month are:	**As stated in Annexure A to this Contract Data provided by the *Employer*.**
80.1	**Risks and insurance**	
	These are additional *Employer*'s risks	**None**
81		
81.1	**The Contractors risks**	
82	From the starting date until the defect certificate has been issued, the risks which are not carried by the *Employe*r are carried by the C*ontractor*	
82.1	**Repairs**	

83	Until the defects Certificate has been issued and unless otherwise instructed by the *Project Manager,* the C*ontractor* promptly replaces loss of and repairs damaged to the Works, Plant and Materials	
83.1	**Indemnity**	
83.2	Each Party indemnifies the other against claims, proceedings, compensation, and costs due to an event which is at his risk.	
84	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.	
	Insurance Cover	
84.1		
9	The *Employer* 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)**
10	**Termination**	**Termination of the contract is subject to clause 90 of NEC3 Engineering Construction Contract**
A	**Data for main Option clause**	
60.6	**Priced contract with activity schedule**	**As defined in clause 11 of NEC3 Engineering Construction Contract.**
11	The *method of measurement* is	**As stated in Part C2.1, Pricing Assumptions.**
W1.1	**Data for Option W1**	
W1.2(3)	The *Adjudicator* 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).**
W1.4(2)	The *Adjudicator nominating body* is:	**the Chairman of ICE-SA a joint Division of the South African Institution of Civil Engineering and the London Institution of Civil Engineers. (See www.ice-sa.org.za) or its successor body.**
W1.4(5)	The *tribunal* is:	**arbitration.**
	The *arbitration procedure* is	**the latest edition of Rules for the Conduct of Arbitrations published by The Association of Arbitrators (Southern Africa) or its successor body.**
	The place where arbitration is to be held is	**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.**

Data for secondary Option clauses ○

X2	**Changes in the law**	**There is no reference to Contract Data in this Option and terms in italics are identified elsewhere in this Contract Data.**		
X5	**Sectional Completion**			
X5.1	The *completion date* for each *section* of the *works* is:	***Section***	**Description**	***Completion date***
		1	**Cleaning of Sump**	**As per the approved schedule**
		2	**Civil works**	**[●]**
		3	**Mechanical works**	**[●]**
X5 & X7	**Sectional Completion and delay damages used together**			
X7.1 X5.1	Delay damages for late Completion of the *section*s of the *works* are:	***section***	**Description**	**Amount per day**
		1	**Cleaning of Sump**	**R**
		2	**Civil Works**	**R**
		3	**Mechanical works**	**R**
	Remainder of the *works*			
	The total delay damages payable by the *Contractor* does not exceed:	**R**		
X7.1	Delay damages for Completion of the whole of the *works* are	**1 % of total order value, of the delay per week up to the maximum of 2.5% of the order**		
X13	**Performance bond**			
X13.1	The amount of the performance bond is	**To be advised at tender award stage**		
X16	**Retention (not used with Option F)**			
X16.1	The *retention free amount* is	**Nill**		
	The *retention percentage* is	**5% of every payment made, 50% will be paid after the completion of the project and the remaining 50% will be paid after 52 weeks**		
X17	**Low performance damages**			

X17.1	The amounts for low performance damages are:	**Amount** **R** **R** **R**	**Performance level** **for House keeping** **for Poor workmanship** **for Rework**
X18	**Limitation of liability**		
X18.1	The *Contractor*'s liability to the *Employer* for indirect or consequential loss is limited to:	**R0.0 (zero Rand)**	
X18.2	For any one event, the *Contractor*'s liability to the *Employer* for loss of or damage to the *Employer*'s property is limited to:	**the amount of the deductibles relevant to the event**	
X18.3	The *Contractor*'s liability for Defects due to his design which are not listed on the Defects Certificate is limited to	**The greater of** • **the total of the Prices at the Contract Date and** • **the amounts excluded and unrecoverable from the *Employer*'s assets policy for correcting the Defect (other than the resulting physical damage which is not excluded) plus the applicable deductible as at contract date.**	
X18.4	The *Contractor*'s total liability to the *Employer* 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 *Contractor's* total liability for the additional excluded matters is not limited.** **The additional excluded matters are amounts for which the *Contractor* is liable under this contract for** • **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 *works*, Plant and Materials),** • **death of or injury to a person and** • **infringement of an intellectual property right.**	
X18.5	The *end of liability date* is	**(i) [•] years after the *defects date* 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 *Employer* or the *Supervisor* before the *defects date*, without requiring any inspection not ordinarily carried out by the *Employer* or the *Supervisor* during that period. If the *Employer* or the *Supervisor* do undertake any inspection over and above the reasonable inspection, this does not place a greater responsibility on the *Employer* or the *Supervisor* to have discovered the Defect.
Z	The *end of liability date* is	**One years after the *defects date* 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 *Employer* or the *Supervisor* before the *defects date*, without requiring any inspection not ordinarily carried out by the *Employer* or the *Supervisor* during that period. If the *Employer* or the *Supervisor* do undertake any inspection over and above the reasonable inspection, this does not place a greater responsibility on the *Employer* or the *Supervisor* to have discovered the Defect.**
	The *Additional conditions of contract* are	**Z1 to Z15 always apply.**

Z1

Z1.1 **Cession delegation and assignment**

Z1.2 The *Contractor* does not cede, delegate or assign any of its rights or obligations to any person without the written consent of the *Employer.*

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

Z2.1 **Joint ventures**

Z2.2 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.

Z2.3 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.

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

Z3.1 **Change of Broad Based Black Economic Empowerment (B-BBEE) status**

Z3.2 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.

Z3.3 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*.

Z3.4 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.

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

Z4.1 **Confidentiality**

Z4.2 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.

Z4.3 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*.

Z4.4 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.

Z4.5 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*.

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

Z5

Z5.1 **Waiver and estoppel: Add to core clause 12.3:**

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

Z6

Z6.1 **Health, safety and the environment: Add to core clause 27.4**

Z6.2 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.

- 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

Z7.1 **Provision of a Tax Invoice and interest. Add to core clause 51**

Z7.2 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.

Z7.3 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.

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

Z8.1 **Notifying compensation events**

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

Z9.1 ***Employer's* limitation of liability**

Z9.2 The *Employer's* liability to the *Contractor* for the *Contractor's* indirect or consequential loss is limited to R0.00 (zero Rand)

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

Z10.1 **Termination: Add to core clause 91.1, at the second main bullet point, fourth sub-bullet point, after the words "against it":**

or had a business rescue order granted against it.

Z11

Z11.1 **Addition to secondary Option X7 Delay damages (if applicable in this contract)**

Z12 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.

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

Ethics

Affected Party

Coercive Action 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,

Collusive 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,

Committing Party 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,

Corrupt Action 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,

Fraudulent 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,

Obstructive 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,

Prohibited 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

Z12.1 means any one or more of a Coercive Action, Collusive Action Corrupt Action, Fraudulent Action or Obstructive Action.

Z12.2 A Committing Party may not take any Prohibited Action during the course of the procurement of this contract or in execution thereof.

Z12.3 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.

Z12.4 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.

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

Z 13.1 Insurance

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 minim limit of indemnity
Loss of or damage to the *work*s, Plant and Materials	The replacement cost where not covered by the *Employer*'s insuranc The *Employer*'s policy deductible, as Contract Date, where covered by the *Employer*'s insurance
Loss of or damage to Equipment	The replacement cost
Liability for loss of or damage to property (except the *work*s, Plant and Materials and Equipment) and liability for bodily injury to or death of a person (not an employee of the *Contractor*) caused by activity in connection with this contract	Loss of or damage to property *Employer*'s property The replacement cost where not covered by the *Employer*'s insuranc The *Employer*'s policy deductible, as Contract Date, where covered by the *Employer*'s insurance Other property The replacement cost Bodily injury to or death of a person The amount required by applicable l
Liability for death of or bodily injury to employees of the *Contractor* arising out of and in the course of their employment in connection with this contract	The amount required by the applicat 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 l 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 *Employer*'s 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 Data4

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 rage 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.

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.

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

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

	Experience:	**CV's (and further key persons data including CVs) are appended to Tender Schedule entitled .**
11.2(3)	The *completion date* for the whole of the *works* is	
11.2(14)	The following matters will be included in the Risk Register	
11.2(19)	The Works Information for the *Contractor*'s design is in:	
31.1	The programme identified in the Contract Data is	
A	**Priced contract with activity schedule**	
11.2(20) 11.2(30)	The *activity schedule* is in The tendered total of the Prices is	**(in words), excluding VAT**
	Data for Schedules of Cost Components	*Note "SCC" means Schedule of Cost Components starting on page 60, and "SSCC" means Shorter Schedule of Cost Components starting on page 63 of ECC3 (April 2013).*
A	**Priced contract with activity schedule**	**Data for the Shorter Schedule of Cost Components**

C1.3 Forms of Securities

Pro formas for Bonds & Guarantees

For use with the NEC3 Engineering & Construction Contract

The *conditions of contract* stated in the Contract Data Part 1 include the following Secondary Options:

Option X16: Retention

The *Contractor* may provide a Retention Money Guarantee in the form stated here. When the *Employer* receives and accepts a Retention Money Guarantee exactly in the form stated he will instruct the *Project Manager* not to assess any amount be retained in terms of secondary Option X16.

The *Contractor* shall guarantee his SDL&I Obligations by providing the *Employer* with an SDL&I Guarantee in the form provided here.

The organisation providing the bond / guarantee does so by copying the pro forma document onto his letterhead without any change t the text or format and completing the required details. The completed document is then given to the *Employer* within the time stated in the contract.

PART 2: PRICING DATA
ECC3 Option A

Document reference	Title	No of pages
C2.1	Pricing assumptions: Option A	
C2.2	The *activity schedule*	

C2.1 Pricing assumptions: Option A

1. How work is priced and assessed for payment

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

Identified and defined terms	11 11.2	(20) The Activity Schedule is the *activity schedule* unless later changed in accordance with this contract. (27) The Price for Work Done to Date is the total of the Prices for • each group of completed activities and • each completed activity which is not in a group. A completed activity is one which is without Defects which would either delay or be covered by immediately following work. (30) The Prices are the lump sum prices for each of the activities on the Activity Schedule unless later changed in accordance with this contract.

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

2. Function of the Activity Schedule

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

3. Link to the programme

Clause 31.4 states that “The *Contractor* provides information which shows how each activity on the Activity Schedule relates to the operations on each programme which he submits for acceptance”. Ideally the tendering *contractor* will develop a high level programme first then resource each activity and thus arrive at the lump sum price for that activity both of which can be entered into the *activity schedule*.

4. Preparing the *activity schedule*

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

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

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

- Has taken account of the guidance given in the ECC3 Guidance Notes pages 19 and 20;
- Understands the function of the Activity Schedule and how work is priced and paid for;
- Is aware of the need to link the Activity Schedule to activities shown on his programme;
- Has listed and priced activities in the *activity schedule* which are inclusive of everything necessary and incidental to Providing the Works in accordance with the Works Information, as it was at the time of tender, as well as correct any Defects not caused by an *Employer's* risk;
- Has priced work he decides not to show as a separate activity within the Prices of other listed activities in order to fulfil the obligation to complete the *works* for the tendered total of the Prices.
- Understands there is no adjustment to the lump sum Activity Schedule price if the amount, or quantity, of work within that activity later turns out to be different to that which the *Contractor* estimated at time of tender. The only basis for a change to the Prices is as a result of a compensation event.

An activity schedule could have the following format:

Item No.	**Programme Reference**	**Activity description**	**Price**

C2.2 the *activity schedule*

The Price List is as follows:

	ACTIVITY SCHEDULE	
Item	**Activity Description**	**Amount**
1	**Bill No. 1 - Preliminaries and general**	
1.1	Adhering to SHEQ requirements	
1.2	Site Establishment and De-establishment	
1.3	Office overheads and other obligations	
1.4	Management of the works	
1.5	PPE	
1.6	Medicals	
1.7	Safety File	
1.8	Police Clearance	
1.9	Transportation of employees	
	Other (Give descriptions below)	
1.10		
1.11		
1.12		
1.13		
2	**Bill No. 2 - Civil Works**	
	Surface Preparation (Provisional)	

2.1	Prior to applying spray concrete, all detoriorated or defective concrete shall be removed. Substrate repairs should be as follows; carbonated concrete shall be removed to a depth of atleast 20mm behind rebar and 50mm into non carbonated concrete.Where concrete deterorated due to chloride attack, concrete shall be removed to a depth of atleast 30mm behind rebar and 100mm into sound concrete. Area to be repaired should be clearly marked. Sprayed concrete shall not be used in temperatures below 2 deg C on substratesexposed to windy conditions or rainfall. *Substrates must be damp but without free water prior to application of sprayed concrete.* ***Repairs shall follow the standard for Eskom Power Station remedial work (240-144332407) civil concrete remedial A method statement for execution of this work is required reviewed and signed off by the contractor'sProfessional Engineer ECSA registered.*** *(Refer to Scope of works)*	
2.2	Sludge Removal in the launder channels and sump using a vacuum truck approximately 30m3 (Refer to Scope of Works)	
	<u>Concrete Repairs</u>	
2.3	35 Mpa Gunite Concrete to walls - all concrete works shall be conducted in accordance with Eskom Standards (240-144332407) Civil Concrete remedial (Refer to Scope of Works)	
2.4	Wire Mesh Ref 395 allow 700m2	
2.5	Supply and installation of acid resistant tiles allow 645m2 (Refer to scope of works)	
3	**Bill No. 3 - Structural Steel Works**	
	<u>Repair works of the existing grating</u>	
3.1	Galvinised steel 50 x 50 x 8mm Equal angle iron (9m long) - Refer to the Scope of Works	
3.2	Galvinised steel 50 x 50 x 8mm Equal angle iron (5m long) - Refer to scope of works	
3.3	Galvinised steel 50 x 50 x 8mm Equal angle iron (10m long) - Refer to Scope of Works	
3.4	Galvinised steel 50 x 50 x 8mm Equal angle iron (6m long) - Refer to Scope of works	
3.5	Galvinised steel 250 x 125 x 6mm I beam (5m long) - Refer to scope of works	
	<u>Galvinised Steel Slide Gates</u>	

3.6	Manufacturing, supply and installation of galvinsed steel gate as per the engineeers specifications and details. 4 x 4mm rubber lined slide gates with rubber linning for both west and east sludge discharge lines. (For more details see figure.1)The slide gates shoud be installed in each launder as a safety precaution in case water manages to go past the first isolation slide gate, slide gates should be 2m apart. (Refer to Scope of works)	
4	**Bill No.4 - Mechanical Works**	
	Supply and Installation of pumps	
4.1	Surbmisible pumps of minimum flow rate of 30L/s and a minimum head of 90mm (Refer to the scope of works) x 2 No (Refer to Scope of Works)	
4.2	Sludge pump minimum pumping capacity 200m3/h and head of 100mm x 2 No (Refer to Scope of works)	
4.3	Temporary Plumbing Works for isolation while working in the sump repairing concrete (Refer to Scope of works)	
4.4	Plumbing Work	
5	**Bill No. 5 - Proffessional Civil/ Structural Engineering Services**	
5.1	Design and submission of drawings	
5.2	Inspection	
6	**Bill No. 6 - Proffessional Mechanical Engineering Service**	
6.1	Design and submission of drawings	
6.2	Inspection	
Total Excluding Vat		

PART 3: SCOPE OF WORK

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

C3.1: EMPLOYER'S WORKS INFORMATION

Contents

1 Description of the *works*

1.1 Executive overview

The Water Treatment Plant Sludge Sump has deteriorated, and this is having a negative effect on the reliability and performance of the Sludge Pumps which lead to breakdowns resulting in reduced WTP Demin Water Production. The frequent failure of the sludge pumps results in high maintenance cost and it places all the units at risk of being shut down due to low Demin volumes because of the pump unavailability which is required for WTP Regens.

This Scope compromises of 2 sections which are the Sludge Sump Refurbishment and the Sludge Pump Test Modification Installation. The Sump will be refurbished and upon completion of the refurbishment the sludge pump reliability and performance will be monitored to determine whether the Sludge Pumps modification will still be required. The Sludge Pump Test Modification will done be done if the need arises. The Sludge Sump must be isolated during the refurbishment activities. The sludge/effluent must by-pass the sludge sump and it must then be pumped directly to Slurry Plant via the current existing sludge discharge pipeline

1.2 *Employer*'s objectives and purpose of the *works*

This contract is intended to refurbish and repair the sludge sump

1.3 Scope of the Works

PLANT AREA: Matla Power Station **TITLE:** *Sludge Sump Refurbishment and Sludge Pump Modification Scope of Work*			
REF: MEA - 07030	**Reference Rev No:1**	**MULTIDISCIPLINARY: No**	**Plant Level: All**
COMPILED BY	***Name: Isaack Maredi*** ***Auxiliary Eng Systems Engineer (Mechanical)***	Signature:	Date:
COMPILED BY	***Name: Isaack Maredi*** ***Auxiliary Eng Systems Engineer (Civil)***	Signature:	Date:
APPROVED	***Name: Gavin Phelelo*** ***Auxiliary Eng Line Manager***	Signature:	Date:
APPROVED	***Name: Lindokuhle Ngobese*** ***Engineering Group Manager***	Signature:	Date:
REVIEWED	***Name:*** ***Quality Department***	Signature:	Date:
REVIEWED	***Name:*** ***Occupational Health and Safety***	Signature:	Date:
REVIEWED	***Name:*** ***Environmental Department***	Signature:	Date:
ACCEPTED	***Name:*** ***Outage Manager/Maintenance manager***	Signature:	Date:
ACCEPTED	***Name:*** ***AIA***	Signature:	Date

NB: Do not tamper with the template.

GENERAL

- Data books, reviews, reports, and diagrams/drawings shall be submitted to Engineering after the completion of the work. Engineering to forward the data books to Quality Department (Document Control)
- All QCP's to be submitted to Engineering and Quality for approval prior to outage/project or maintenance work commencement.

	SCOPE OF WORK DESCRIPTION / ACTIVITY	PROCEDURE, SPECIFICATION, ENG. REQUIREMENTS / DOCUMENTATION	HOLD POINTS, WITNESS, REPORTS	RESPONSIBLE PARTY
1.1	Occupational Health and Safety	• Health and safety file should be approved by Safety risk management department prior to any work commences on site • All work is to be done in accordance with OHS Act 85 of 1993, Matla plant procedures and Plant Safety Regulations. (240-150642762). • Matla power station SHEQ induction must be done before access to site can be granted • The contractor should ensure that all employees have acquired the required competency for the task they are performing. • The contractor to ensure compliance to updated legal requirements and other requirements. • **BUY QUIET:** All stakeholders are encouraged to purchase or rent quieter machinery, equipment, and tools to reduce worker noise exposure, contribute towards compliance to OHSA noise exposure limits and ultimately reduce the risk of noise induced hearing loss.	Eskom to witness.	Contractor
1.2	Environmental Management. .	• All activities listed in the National Environmental Act 107 of 1998, EIA Regulations as amended, must have environmental **AUTHORISATION** before commencement of work. • The contractor shall comply with all applicable legal and other requirements. • The polluter pays principle will be applied. • The contractor manager shall ensure compliance with Eskom Matla Environmental procedures to ensure the prevention of pollution (refer: OMOP 4090 and 4402). • The last payment will be processed based on the status of the last housekeeping check sheet (Annexure C: OMOP 4402) of designated area. • EMS file based on ISO14001 will be required.	Eskom to witness.	Contractor
1.3	Quality Management	• The contractor/executioner of work will be responsible for drawing up all QCP documentation and this must be approved by engineering and authorised by the Quality Department before commencing with the work. • Contractors/executioner to adhere to QM 58 and OMOP4497 requirements	Hold point	Contractor

		• Number of NCR issued can affect your next tendering process. • The QCP shall be signed progressively by the Engineer/Supervisor, Eskom QC Inspector, Contractor QC Inspector and/or AIA. • No procuring of outage items without the approval of scopes by quality • All outage scopes creep and scopes addition should be approved by quality • No contractor should be in the possession of scopes for execution without the scopes approved by quality • The contractor is subjected to quality auditing at any point in time during execution of scope		
1.4	Inputs from other departments			
1.5	Commissioning reference			

The Water Treatment Plant Sludge Sump has deteriorated, and this is having a negative effect on the reliability and performance of the Sludge Pumps which lead to breakdowns resulting in reduced WTP Demin Water Production. The frequent failure of the sludge pumps results in high maintenance cost and it places all the units at risk of being shut down due to low Demin volumes because of the pump unavailability which is required for WTP Regens.

This Scope compromises of 2 sections which are the Sludge Sump Refurbishment and the Sludge Pump Test Modification Installation. The Sump will be refurbished and upon completion of the refurbishment the sludge pump reliability and performance will be monitored to determine whether the Sludge Pumps modification will still be required. The Sludge Pump Test Modification will done be done if the need arises. The Sludge Sump must be isolated during the refurbishment activities. The sludge/effluent must by-pass the sludge sump and it must then be pumped directly to Slurry Plant via the current existing sludge discharge pipeline.

	SCOPE OF WORK DESCRIPTION / ACTIVITY	**PROCEDURE, SPECIFICATION, ENG. REQUIREMENTS / DOCUMENTATION**	**HOLD POINTS, WITNESS, REPORTS**	**RESPONSIBLE PARTY**
Section 1: Sludge Sump Refurbishment – Mechanical Scope				
2.1	**Sludge Sump**		Hold	Contractor

	The sludge sump is filled with silt/Sludge and debris, all these foreign material needs to be removed from the sump so it can be inspected/refurbished and returned to its design capacity. The new pumping station must be designed and installed to keep the Water Treatment Plant in operation while the sludge sump will be unavailable for the repairs. This pumping system will remain the property of Eskom upon completion of the sludge sump repairs. The sludge sump must be isolated using angle bars. An example of the pumping system layout is shown in figure 2 as a guide. **Supply, Manufacture and install** • 4 x 4mm Rubber lined Slide gates with rubber lining for both west and east sludge discharge lines see figure 1. Two slide gates should be installed on each launder as a safety precaution in case water manages to go past the first isolation slide gate and this slide gates should about 2 meters apart. • 2 x Submersible pumps which will be installed by the East and West launders which usually transport sludge and effluent to the sludge sump under normal operations. The size of these pumps will be limited by the Launder dimensions as the space might be too small for the required pump specification, the contractor may use a surface pump instead of a submersible pump. The contractor may explore various available pumps in the market which might still meet the combined required pump specification such as making use of more pumps instead of just two but the Flow	Specifications: • Slide Gate Dimensions: Height 3.5m, width 60mm; WT 8mm • Minimum Launder Pumps Specification of each pump is to be 350 m^3/h and head of 50 m. • Sludge Pumps which are able to discharge sludge/effluent medium at 450 m^3/h flow and a 80 m head to slurry plant.		

	requirements including head should still be met. The 2 launder pumps will discharge into an Effluent/Sludge Tank. These pumps must be able to handle the acidic waste from the WTP plant and lime sludge. • 2 Sludge Pumps must be installed which will take suction the Sludge/Effluent Tanks and pump the medium to slurry plant. The contractor may opt for diesel pumps in case there is a challenge regarding power supply for the pumps. These pumps must be able to handle the acidic waste from the WTP plant and lime sludge. • The two sludge pumps should be able to pump out sludge from either of the two launders so that both pumps may be used to pump out sludge from the same launder in case one pump is not copying alone due to increased sludge water composition in the launders. • The sludge in the launders should be agitated to avoid it from settling/solidifying which might result in the pump being unable to pump out the sludge. This may be done by tapping off air from the air supply line which supplies agitation air to the sludge sump or an alternative efficient way may be used. • Contractor to verify launder dimensions before getting the submersible pump in order to ensure that the pump will be able to fit inside the launder.			

	• HDPE Pipelines must be installed to move the effluent/sludge across the various pumping sub systems as shown in the guide in figure 2 of the Appendix. • The pump discharge lines must be supported sufficiently in order to reduce the risk of pipe failure due to vibrations which might be due to the flow and pump movement. The pump should also be secured. • The contractor is to monitor the launder sludge levels and develop an effective pumping procedure which will be able to maintain the water in the launder to acceptable levels to eliminate the risk of damaging the pump, due to pumping against an empty/low level launder. The pumping procedure should also be maintained to eliminate the risk of having full launders which might overflow into the isolated sludge sump. • The HDPE Pipeline must be of DN250. • The isolating valves and Non Return valves which must be installed as per figure 2 guide must be able to handle the acidic effluent/sludge waste. • 2 Sludge Effluent Tanks of 350 m^3 volume must be supplied. The Tank must be able to handle the acidic/corrosive medium with compromises of WTP acid effluent/sludge. • All necessary HDPE piping and fittings to join the effluent/sludge line which transports the waste to slurry plant.			

	• The Potable Clarifier Blowdown Pipelines which normally discharge directly into the sludge sump must be redirected into the launders due to unavailability of the sludge sump. The other pipelines which discharge into the sludge sump must also be redirected into the launders. • Supply HDPE pipeline of approximately 300m to the sludge line that drains to the slurry line. • Bolts and nuts to be supplied for the slide gate and all necessary measurements to be done including for the slide gate by the contractor (Approximately 26 nuts and bolts – (12mm – 20mm size)) • Bolts and nuts to be supplied. • Contractor to have a provision for an additional HDPE pipe and fittings which might be required to divert any other additional sludge sump water sources which might have been missed due to unforeseen reasons. • The service provider is to submit the Effluent/Sludge Pumping system design and operating methodology to Eskom for approval before the system could be installed.			
2.2	**Sump Cleaning/Sludge Removal** Cleaning the existing concrete by means of grit blasting or a high pressure water spray. Remove the sludge in the sump of about 100m^2 by means of a vacuum truck		Hold	Contractor

	and dispose by the Eskom licenced dumping site (Ash Dam). Sludge sump cleaning It is recommended that sludge in the launders be agitated and loosened prior to pumping it in order to preserve the pump and also to avoid any blockages due to the sludge. The contractor is to recommend the method that will be used to agitate the sludge. If additional water is required to pump the sludge out of the launders at any given time, then this may be done manually or by making use of a vacuum truck. The vacuum truck is to deposit the sludge at the ash dams when full.			
2.3	**Clarifier Blowdown** Four additional HDPE pipes are to be connected to the four Portable Clarifier blowdown lines which discharge into the sludge sump under normal operations in order to divert these lines from discharging into the sludge sump and the fittings for these pipes should be free of any leakages. These lines are of about 200NB size and contractor is to confirm the measurements before manufacturing the required 4 HDPE lines. These four lines should discharge into the nearest launder. The contractor can perform work between the times 07:00 to 16:15. Blow downs of the clarifier will take place between 16:20 and 07:00 and no work should take place during clarifier blow downs and in addition these times should be confirmed with the Water Treatment Plant/Operating Department and should be monitored on a daily basis for the safety of the personal. Contractor to submit method statement with the reply to the RFQ describing how the work will take place If the above 2 items are not supplied with the RFQ the RFQ will not be considered.		Hold	Contractor
2.4	**Supply and Install sump Agitation Air Supply Line**		Hold	Contractor

	The Sump Agitation air supply line which supplies air into the sump should be replaced with a suitable line that will be able to withstand the Demin water effluent and sludge under normal operating conditions. Contractor to verify the pipeline dimensions prior to replacing the current line.			
2.5	**Supply Blow Down Pits drainage Pump** 2 x submersible pumps should be provided which will be used to drain any water that may have accumulated inside the clarifier pits which house the clarifier blow down pipework and the Lime dosing lines into the clarifier. These submersible pumps should have a minimum performance of 30 L/s and a minimum head of 100 m. These pumps will remain the property of Eskom upon the completion of the Sludge Sump Refurbishment.			
2.6	**Safety Operation Precaution** No work is to take place inside the sludge sump if the sump is not completely isolated and the contractor is to verify that all Sludge sump water sources have been diverted or isolated. All work should be stopped if there is any chance of water overflowing from the launders into the sludge sump due to full launders. As per OHSAct requirements, the pump must be supplied with the nec.		Hold	Contractor
Section 1: Sludge Sump Refurbishment – Civil Scope				
3.1	Supply all material and conduct concrete repairs as per specification on section 2.2	• All concrete works shall be conducted in accordance with Eskom Standard: **240-144332407: Standard for Eskom Power Stations Concrete Remedial Work**	Hold/Witness	Contractor

3.2	Repairs should follow Standard for Eskom Power Stations Remedial work (240 -144332407) Civil Concrete Remedial. It is expected from the contractor to submit their method statement in executing this works and it should be reviewed and sign off by their Prof Civil Engineer ECSA registered.	**Surface preparation** Prior to applying spray concrete, all deteriorated or defective concrete shall be removed and substrate prepared as follows: Carbonated concrete shall be removed to a depth of at least 20mm behind rebar and 50mm into non-carbonated concrete. Where concrete deteriorated due to chloride attack, concrete shall be removed to a depth of at least 30mm behind rebar and 100mm into sound concrete. Area to be repaired shall be marked clearly. Sprayed concrete shall not be used in temperatures below 2°C or on substrates exposed to windy conditions or rainfall. Substrate must be damp but without free water prior to application of sprayed concrete.	Hold/Witness	Contractor
3.3	**Sludge removal** Launders: • Clean sludge in the launder channels (V= 0.1m depth x 0.6 m wide x 83m length) • Total estimated sludge to be removed is 5m3 Sludge Sump • Remove sludge in the sump (V= 0.5m *5m* 10) • Total estimated sludge to be removed is 25m3 In total the sludge to be removed is approximately 30m3. This can be done through a vacuum truck.		Witness	Contractor
3.5	Sludge Sumps and Launder drain channel • Supply material and install acid resistant tiling over the first 2m from the ground of the channel.	Repair concrete at the sludge sump and trench leading to the sump as per the concrete repair standard	Witness	Contractor

<table>
<tr>
<td></td>
<td>
The drain channel for the installation of the tiles is (Area = 83m x (2m +1m) = 249m2)

Repair the concrete sump as per the concrete repair specification (V of the sump= 30m x 5m x 10m= 1500m3)
Concrete repair volume for the sump 5m from the bottom of the sump is 35m3 – the preferred method is concrete gunite machine however the contractor can still propose their preferred method of repairs and submit for acceptance.
Re-instate the rebar by splicing and treat all the corroded rebar’s prior placing the concrete.
Install the wall tiling on the sump on the first 3 m from the ground.
Supply and install steel angle irons above the sump and steel I beams as per the table below: Supply:

<table>
<tr><th>Member</th><th>Dimension</th><th>Length</th><th>Quantity</th></tr>
<tr><td>Angle Iron</td><td>50mmx50mmx8mm</td><td>9m</td><td>2</td></tr>
<tr><td>Angle Iron</td><td>50mmx50mmx8mm</td><td>5m</td><td>2</td></tr>
<tr><td>Angle Iron</td><td>50mmx50mmx8mm</td><td>10m</td><td>2</td></tr>
<tr><td>Angle Iron</td><td>50mmx50mmx8mm</td><td>6m</td><td>2</td></tr>
<tr><td>I beams</td><td>250mmx125mmx6mm</td><td>5 -6m</td><td>5</td></tr>
</table>
Remove and Reinstate the joint sealant. Size of the repair (6m long x 30mm)
</td>
<td></td>
<td></td>
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Important notes:

Suppliers specifications on all products must be strictly adhered to
Data sheets and product MSDS should be supplied by the contractor prior to commencement of works

</td>
<td></td>
<td>HOLD/Witness</td>
<td>Contractor</td>
</tr>
</table>

	• Prior to application of any repair mortar, Concrete, Tiles or bricks, the application method must be strictly adhered to. • A ten year guarantee of all products must be supplied upon completion of works. • Quantities are merely a guide and it is the contractor's responsibility to confirm all exact measurements and quantities before commencement of works. If there are any changes, the contractor shall notify Matla Power station Civil Engineer or the Project Manager. • Concrete repair areas will be identified marked out by the Civil Engineer for the contractor. • It is the contractors Responsibility to ensure that waste removal is Included on the budget Quote. • Contractor must elaborate on how they going to do their chemical handling during the construction. **House Keeping** • All materials removed from site and regarded as waste shall be transported and disposed of at a licenced dumping site as per their categories or classification.		Witness	Contractor
Section 2 - Sludge Pump Test Modification Mechanical Scope of Work				
The scope of work makes provision for the Procuring, Designing and Installation of one Surface Water Treatment Plant Sludge and Filter Centrifugal Pumps for Testing Purpose. The pump's performance and reliability will be monitored over a pre-determined period (3 Months) to assess its reliability as compared to the current installed Sludge Pumps at Water Treatment Plant. The sludge pump will be used to pump sludge from the Water Treatment Plant to slurry plant AWRSE Tank and the Filter				

Pump will be used to pump filtered water to the Degasser sump via the Sand Filters and the Cation Vessels. The Pumps must be installed above the platforms which are located above the Sludge and Filter Sumps.				
4.1	**Sludge Pump SOW:** 1. Procuring, Designing, installation and Testing of one Surface Centrifugal Sludge Pump above the sump. 2. Take samples of the sludge sump medium and take these properties into consideration when designing or selecting the best pump fit for purpose with regards to pumping this medium. The sludge content also includes corrosive effluent from the Water Treatment Plant (WTP). 3. Fabricate a DN200 Stainless Steel discharge manifold/header with three inlet Flanged Pipework. This manifold must be connected to the Pump discharge flanges. 4. Install 3 x DN200 Isolating Valves for each of the 3 respective inlet flanged Pipework. 5. The pump must be manufactured with a priming system which will be used for pump start up requirements. Only one surface pump must be installed on one of the manifold inlets. Other manifold inlet points will be unused until the test modification is completed. 6. Design and fabricate the structure which will support the installed Sludge Surface Pumps. These supports must not compromise the integrity of the current sump beams and gratings. One pump will be kept on site as spare in case of a pump failure on the installed Test pump.	• **Specifications:** **Vertical/Overhead Sludge Pump** • Flow - 350 m^3/h (water reference density 1000 kg/m^3). Sludge reference density 1100 kg/m^3. • Head – 80 m • Medium – WTP Clarifier Sludge and WTP Production Effluent. • Test Pump Quantity: 2 • Pump Suction Depth – 7 m below pump base floor. • Sludge Pump Quantity - 2 **Pipework** • Size - DN 200 • Pressure Rating – PN16 • Quantity – As per contractor design requirements. **Non-Return Valves** • Size – DN200 • Pressure Rating – PN 16 • Flanged as per SANS 1123 • Quantity – 3 **Isolating Butterfly Valves** • Size – DN200 • Pressure Rating – PN 16 • Flanged as per SANS 1123 • Quantity – 3	Hold	Contractor

	7. Install 1 x Electrical Panels (380V) which will be used to run the installed sludge surface pump. The panel is to be compatible with the pump and IP66 rated to allow installation to outdoors. Install all the necessary protections. 8. Install the Surface Sludge Pump above the Sludge Sump and assembly the pump discharge flanges to the manifold Inlet Pipework. 9. Install the current Sludge Pump Discharge Pipework to the fabricated manifold/header. 10. The Pump Suction Pipe will be exposed to corrosive medium (Water Treatment Plant Demin production dirty effluent), and the material of construction must be able to resist the corrosive attack from the medium. 11. The Pump Suction Pipe must be 320 mm distance away from the sump floor. The sump depth is 6.42 m. The suction pipe must have a belmouth entrance to increase suction area and have a wiremesh screen to filter foreign objects. 12. Install 3 Pressure gauges on each of the 3 pumps discharge pipework before the manifold inlet valves. 13. Contractor to submit a design proposal to Eskom for approval before procuring of any equipment in support of this scope of work. 14. The Sludge Sump drawings are shown in Appendix section below. 15. The contractor must supply all the required Gaskets, Bolts and Nuts which will be required for the installation of all the above Pipework.			

4.2	**Filter Pump SOW:** 1. Procuring, Designing, installation and Testing of one Surface Centrifugal Filter Pumps above the sump. 2. Fabricate a DN200 Stainless Steel discharge Pipe which must be connected to the current Filter Pump discharge manifold supplying filtered water to the Sand Filters. 3. Install 1 x DN200 Isolating Valve and 1 DN200 Non-Return Valve on the discharge Pipe. 4. The pump must be manufactured with a priming system which will be used for pump start up requirements. 5. Design and fabricate the structure which will support the installed Sludge Surface Pumps. These supports must not compromise the integrity of the current sump structure. One pump will be kept on site as spare in case of a pump failure on the installed Test pump. 6. Install 1 x Electrical Panels (380V) which will be used to test run the installed Filter surface pump. The panel is to be compatible with the pump and IP66 rated to allow installation to outdoors. Install all the necessary protections. 7. Install the Surface Filter Pump above the Filter Sump and assembly the pump discharge flanges to the manifold Inlet Pipework. 8. The Pump Suction Pipe will be exposed to filtered water medium and the material of construction must be stainless steel.	• **Specifications:** **Vertical/Overhead Filter Pump** • Flow - 250 m^3/h (water reference density 1000 kg/m^3). Filter Water reference density 1000 kg/m^3. • Head – 45 m • Medium – WTP Filter Water. • Pump Suction Depth – 7 m below pump base floor. • Test Filter Pump Quantity - 2 **Pipework** • Size - DN 200 • Pressure Rating – PN16 • Quantity – As per contractor design requirements. **Non-Return Valves** • Size – DN200 • Pressure Rating – PN 16 • Flanged as per SANS BS4504. • Quantity – 1 **Isolating Butterfly Valves** • Size – DN200 • Pressure Rating – PN 16 • Flanged as per BS4504. • Quantity – 1	Hold	Contractor

	9. The Pump Suction Pipe must be 320 mm distance away from the sump floor. The sump depth is 6.42 m. The suction pipe must have a belmouth entrance to increase suction area and have a wiremesh screen to filter foreign objects. 10. Install Pressure gauges on the pumps discharge pipework. 11. Contractor to submit a design proposal to Eskom for approval before procuring of any equipment in support of this scope of work. 12. The Sludge Sump drawings are shown in Appendix section below. 13. The contractor must supply all the required Gaskets, Bolts and Nuts which will be required for the installation of all the above Pipework.			
4.3	**Testing & Commissioning** 1. The Pumps must be tested upon the completion of the installation before it could be handed over to Eskom. 2. The Pump trial will run for around 3 months before the change could be implemented permanently. The service provider is expected to be available as and when required for site support relating to the performance of the pump during this trial phase.		Hold	Contractor

	3. The contractor/service provider is expected to strip, assess and refurbish the pump during the trial period. The Contractor will also be required to issue a data pack for each refurbished pump and the data pack must include the Pump Failure Report, Pump Performance Report, Quality Control Plan and Recommendations to eliminate any premature pump failure. 4. The Contractor is expected to refurbish the pump and return it to the station within a week after a pump failure. 5. The trial period may be reduced by Eskom from 3 months to a shorter time based on any Eskom requirements.			
4.4	**Modification Roll Out Post Pump Test** 1. The Pump Test will run for 3 months and once the testing is successful, the pumps will then be rolled out across the Sludge and Filter Sumps. 2. The Contractor will then be required to install an additional 3 Filter pumps and 2 Sludge Pumps. The Plant must have 3 and 4 Installed Sludge & Filter Pumps respectively upon roll out of the modification.		Hold	Contractor

BILL OF MATERIAL

	Full description of Material/Spares/Equipment	Specifications of Material/Spares/Equipment	Stock No	Part Number	Required Quantity

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				

COMMENTS

ATTACHMENTS: DRAWINGS, SKETCHES, DIAGRAMS, INSTRUCTIONS, etc	
1	
2	
3	
4	
5	
6	
7	
8	

APPENDIX A: Sump Isolating Slide Gate

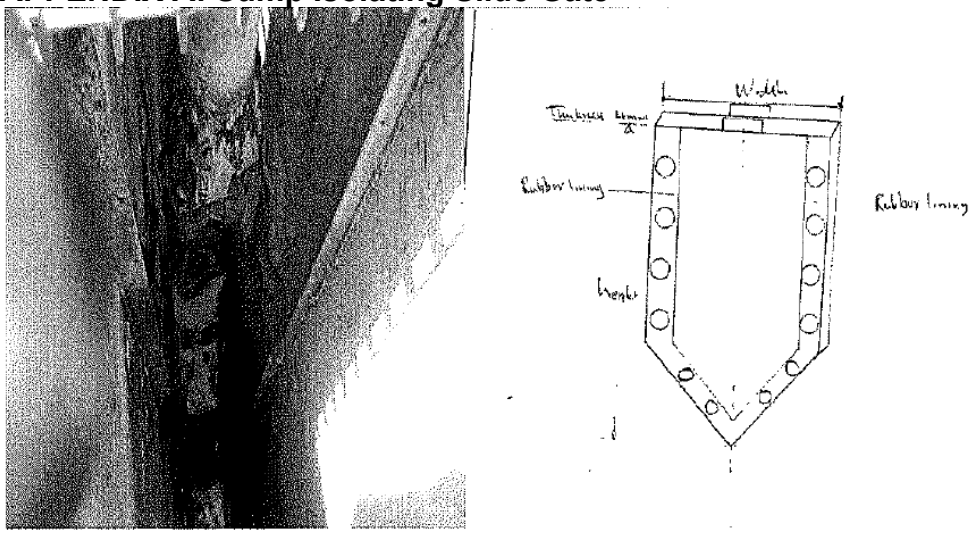

Figure 1 - Sump Isolating Slide Gate

APPENDIX A: Temporary South Sludge/Effluent Pumping Station

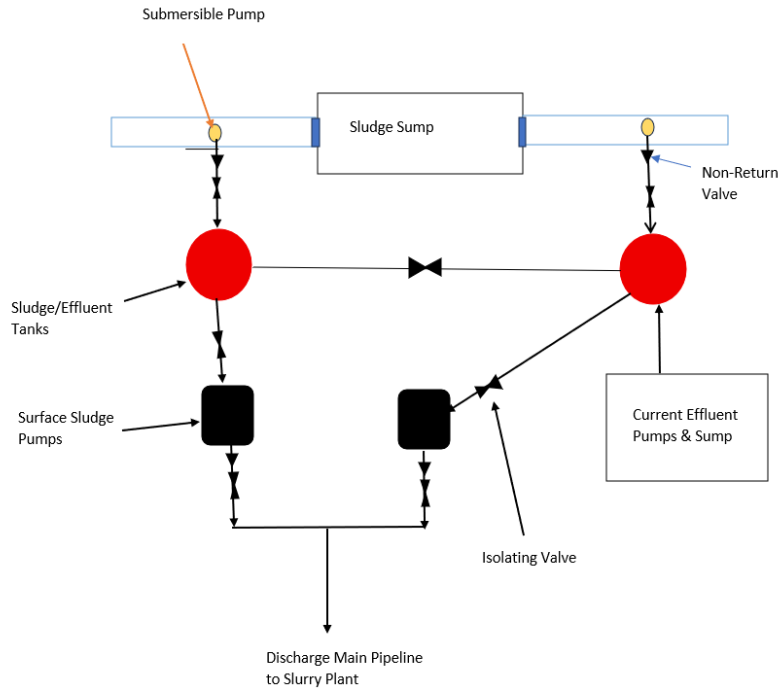

Figure 2 - Sludge/Effluent Pumping System

2. Drawings

Drawing number	Revision	Title
	N/A	
	N/A	
	N/A	

3. Specifications

Title	Date or revision	Tick if publicly available
General Specifications:		
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**
Technical specifications As per Engineering Scope of Works		

1.4 Interpretation and terminology

The following abbreviations are used in this Works Information:

Abbreviation	Meaning given to the abbreviation
QCP	Quality Control Plan
ITP	Inspection Test Plan
QMS	Quality Management System
ISO	International Standards Organisation
CPP	Condensate polishing plant
CPR	Condensate Polishing Regeneration

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 register, Early warnings and compensation events	Bi- weekly	TBC	*Employer,PM, Contractor, Supervisor, and Others as per the invite from the Project Manager*
Construction progress meeting	Weekly	TBC	*Employer, PM, Contractor, Supervisor, and Others as per the invite from the Project Manager*
Commercial and Assessment meeting	Monthly	TBC	*Employer, PM, Contractor,* Supervisor, and Others as per the invite from the Project Manager
Quality meeting	As advised by the Project Manager	TBC	*Employer, PM, Contractor, Supervisor, and Others as per the invite from the Project Manager*
SHE meetings	As advised by the Project Manager	TBC	*Employer, PM, Contractor, Supervisor, and Others as per the invite from the Project Manager*
Integration meeting	As advised by the Project Manager	TBC	*Employer, PM, Contractor, Supervisor, and Others as per the invite from the Project Manager*
Planning meeting	As advised by the Project Manager	TBC	*Employer, PM, Contractor, Supervisor, and Others as per the invite from the Project Manager*
Outage Meeting	Daily	TBC	*Employer, PM, Contractor, Supervisor, and Others as per the invite from the Project Manager*

Document Management	Adhoc	TBC	*Employer, PM, Contractor, Supervisor, and Others as per the invite from the Project Manage*r

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

2.1 Documentation Requirements

The *Contractor* is responsible for the compilation and the supply of the documentation during the various project stages and to provide the documentation programme to link with the milestone dates. Documentation and drawings are programmed for delivery to meet the milestone dates.

All documents supplied by the *Contractor* shall be subject to Eskom's approval. For consistency, it is important that all documents used within the project follow the same layout, style and formatting as described in the Technical Documents and Records Management Work Instruction Documents such as QCP's, Method Statements and other documents impacting the work shall be approved by the *Employer* at least prior to commencement of the Works.

Each revision of a document or drawing shall be accompanied with a list of the comments made by the *Employe*r on the previous revision if applicable and the response/corrective action taken by the *Contracto*r. Changes shall be recorded in a revision table contained in each drawing/document.

Documents and drawings shall indicate the *Employe*r's number as allocated by the *Employe*r. The *Contracto*r may have his own internal document or drawing number on the document or drawing, but where reference is made among documents, the *Employer*'s number shall be used as the reference number.
The *Contractor* shall compile a complete data book for all work done during manufacturing, construction and commission containing the following as a minimum if applicable:

- Scope of work
- Approved "As built" drawings (CADDED)
- Design calculations
- Approved QCP / ITP
- Inspection reports
- Pipe ovality reports if applicable
- As built drawings (isometric drawings and P&IDs)
- Material summary that gives full traceability between components used, drawings and material certificates
- All material certificates for pipes, fittings and all components used.
- Pressure test certificate and the calibration certificates of the gauges used.
- Pressure test procedures
- The manufacturer's/repairer's certificate as defined in PER.
- All CAR's and corrective actions
- Operating Philosophy including all alarm and trip values

- Parts catalogue
- Maintenance manual
- Storage, packing and transportation instructions

2.2 Document Identification

The documentation requirements cover the various engineering stages, from the design stage through fabrication, installation, testing and commissioning and most importantly for the operating, maintenance and training stages of the project.

The *Contractor* is responsible for the compilation and the supply of the documentation during the various project stages and to provide the documentation programme linked to the milestone dates. Completion dates for documentation and drawings are scheduled to meet the milestone dates.

All documents supplied by the *Contractor* shall be subject to Eskom's approval. For consistency, it is important that all documents used within the project follow the same layout, style and formatting as described in the Technical Documents and Records Management Work. Documents such as QCP's, Method Statements and other documents impacting the work shall be approved by the *Employer* at least 3 working days prior to commencement of the Works.

- The *Contractor* shall ensure that document has the following minimum attribute on the cover page:
    - Title of the document
    - Document Unique Identification Number (Eskom number)
    - *Contractor* Document number, if applicable
    - Document status
    - Revision number
    - Document Type
    - Document security level
    - Document revision table/history
    - Page number on the footer
    - Document Author/Authoriser/
    - Document Originator *Contractor*
- The following additional attributes are important for technical documents:
- Package/System name, sub-system if applicable
    - Unit/s number
    - *Contractor* name
    - *Contractor* number
    - Plant Identification Codes

2.3 Format and Layout of Documents

For consistency, it is important that all documents used within a specific domain follow the same layout, style and formatting standard.

Layout and Typography

- Every document should comply with the following font specifications:
    - Font Colour: Black
    - Main Headings Font Type: Arial, Bold, Capital Letters

- Main Heading Font Size: 12pt
- Sub Headings Font Type: Arial, Bold, Title Case
- Sub Headings Font Size: 11pt
- Body Font Type: Arial, Sentence Case i.e., only the first letter of the first word is a capital letter.
- Body Text Font size: 11pt
- Line Spacing: 1.5 line spacing
- Margins: standard
- Alignment: full justification to be used
- Paragraphing: one line skip between paragraphs
- Pagination: centred page numbers (about 0.5 inches from bottom)
- Indentations: standard tab for all paragraphs (about 0.4 to 0.5 inches)

Document Headers
The header should include the project name, document title, document number, revision number and page number.

Naming of files
The Contractor will comply with the Eskom standard for naming documentation files. The standard is as follows:
For documents that have approval date and signature
(YYYYMMDD_DocType_DocumentTitle_UniqueIdentifier_Revision.FileExtention)
For documents that do not necessarily require the 'Approved Date' and 'Revision & Versioning', use the date of update
(YYYYMMDD_DocType_DocumentTitle_UniqueIdentifier_Revision.FileExtention)

2.3 Document Submission

Contractor engineering program reasonable mailing, processing, and review of drawings and data by *Employer*. The *Contractor* is responsible for the compilation and the supply of all the documentation required during the various project stages and to provide the documentation programmed to link with the milestone dates.

If the *Contractor* makes further changes to the equipment and materials shown on submittals that have been reviewed by the *Employe*r, the changes shall be clearly marked on the submittal by the *Contractor* and the submittal process shall be repeated. If changes are made by *Contractor* after delivery to the Plant, as-built drawings indicating the changes shall be prepared by *Contractor* and submitted to *Employer* for review. Any resubmittal of information shall clearly identify the revisions by footnote or by a form of back-circle, with revision block update, as appropriate.

Transmittals

All document exchange shall be done using formal Transmittals. The following is the minimum information required for sending transmittals:

- Title of the document
- Reason for issuing/submission
- Transmittal Number
- Transmittal Name
- Transmittal Description
- Contract Number:
- Package Number
- Transmittal purpose
- Sender Name
- Sender E-Mail
- Sender Organisation
- Recipient Name
- Recipient E-Mail
- Recipient Organisation

- Disclosure Classification
- Date received
- Quantity of documentation referenced on the transmittal
- Number of copies
- Format/medium submitted (e.g. paper, DVD, etc.)
- Sender signature
- Recipient signature, once submitted, to acknowledge receipt

1. If a transmittal is in response to an Eskom communication via transmittal, the Eskom Transmittal Number shall be referenced in the transmittal response and shall be provided in addition to the meta-data required.
2. The *Contractor* shall follow a structured and standard definition for Transmittal Descriptions, i.e. a subject line convention of **YYYYMMDD – <Contract Number> – <Short Description> – <Sender Initials>.**
3. **The *Contractor* shall follow a structured method of communication as defined within Communication Interface Memorandum (CIM) for any correspondence**
4. The *Contracto*r shall follow a structured and standard definition for email subjects i.e. a subject line convention of **YYYYMMDD – < Package File Number> – > – <Email Subject line>.**
5. The *Contractor* shall select the purpose for transmittal in line with the standard Eskom Selection Criteria:
   - Issued for Approval
   - Issued for Award
   - Issued for Basic Design
   - Issued for Commissioning
   - Issued for Concept Design
   - Issued for Consideration
   - Issued for Construction
   - Issued for Detail Design
   - Issued for Document Review
   - Issued for Handover
   - Issued for Information
   - Issued for Installation
   - Issued for Manufacturing
   - Issued for Procurement
   - Issued for Review
   - Issued for Tender

6. Issuing of documents with different transmittal purposes shall be done separately and shall not combined into one transmittal. This will ensure fast and efficient processing of incoming and outgoing transmittals and information exchange.

Electronic technical data submittals shall be made using the project manager's email address (and Zendto, a Web-based file transfer service. If *Contractor* does not already have Zendto transmittal capability, information is available at https://zendto.eskom.co.za/. (The Uniform Resource Locator [URL] to be used for electronic file submittals will be made available upon Contract award.)

In case of email submission, the Contractor should note that if a single file to be transmitted is over 2MB in size, then the document shall be uploaded on Zendto portal.

Notification to Engineer that submittals have been posted to Zendto shall be in accordance with the correspondence requirements of this Contract. *For the Zendto submission, a transmittal record must be submitted to the project email document control address information the Employer of such a submission.*

2.4 Health and safety risk management

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.

2.5 Environmental constraints and management

The *Contractor* shall comply to environmental authorizations obligations, water use licences, environmental management plan/programmes, any other applicable legislative requirements (local, provincial, national and international). The *Contractor* shall also comply with Eskom policies and procedures.

The *Contractor* develops and implements as a minimum the following procedures/ method statement in line with site environmental regulations:

- Environmental Management Plan
- Site Establishment Procedure
- Site Layout Plan
- Waste Management Procedure
- Spill Management Procedure
- Hazardous Chemical Substances Management and Storage Procedure
- Emergency Preparedness and Response Plan
- Dust Control Procedure

2.6 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.

The following requirements shall also be met for the entire duration of the contract. The standard 240-105658000, “Supplier Quality Management Specification (QM58)” shall be complied with.

- The supplier shall complete and sign **Form A** (Enquiry/Contract/Quality Requirements for QM 58 and ISO 9001).
- The supplier shall submit objective evidence of a developed QMS that complies with **ISO 9001** (or the latest applicable revision). The following documents (approved/signed copies) shall be submitted:
  - Quality management system manual or a document that defines and describes the QMS and its scope
  - Quality Policy
  - Control of documented information
  - Records required by ISO 9001 standard (List of Records)
  - Internal audit procedure
  - Control of nonconformity outputs
  - Nonconformity and Corrective action procedure

The QMS should drive all the supplier’s business management processes to ensure that all of Eskom’s requirements are fully met on a consistent basis.

2.7 Programming constraints

The Contractor will provide a detailed programme every second 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 five (5) working 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 day.
- 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.

2.7.1 Construction schedule

The *Contractor* is required to submit a construction schedule and finalized resource schedule weekly for review and acceptance by the *Project Manager*. The schedule shall satisfy the following criteria:
Accurate sequencing of all activities and their relationships in the program
Clearly indicating first and second critical path of the program
Performance in planned versus actual completed activities and explanation of their variance
Clear indication of integration points to others
Identify when services are required for commissioning purposes

2.7.2 Commissioning schedule

During the progress of the works. The contractor develops a detailed commissioning schedule with sufficient detail to enable the work to be adequate progressed in order to meet key dates and the completion dates. The schedule must show alignment interface and compatibility with the employer and others.

2.8 *Contractor*'s management, supervision and key people

The *Contractor* to provide organogram listing management and key personnel including the following:

Project Manager
Site Manager (Site dedicated)
Construction Supervisor (Site dedicated)
Safety Officer (Site dedicated)
Core Crew

2.9 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. Clause 50.2 states invoices submitted by the *Contractor* include the details stated in the Scope to show how the amount due has been assessed. The *Contractor* shall address the tax invoice to the email address that will be provided and include on it the following information. The *Contractor* shall address the tax invoice to Eskom Holdings SOC Ltd and include on each invoice the following information:

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

2.10 Insurance provided by the *Employer*

Refer to clause 84 of this contract

2.11 Contract change management

Contract change management will follow the normal compensation event process. Any change implemented by the *Contractor* without following the compensation event process will not be assessed for payment by the Project Manager

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

2.12 Provision of bonds and guarantees

Applicable as per the agreed Works information specification.

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

Not applicable

2.14 Training workshops and technology transfer

Not applicable

3 Engineering and the *Contractor*'s design

3.1 *Employer*'s design

As attached to the signed scope of work

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

Produce drawings as per scope of work

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

- All design works to be submitted to Matla engineering department for approval prior to installation, all design works to be in accordance to the scope of work unless an alternative has been agreed by both parties

3.4 Other requirements of the *Contractor*'s design

Comply with Eskom requirements

3.5 Use of *Contractor*'s design

Project specific drawing ,data and equipment specifications will become property of Eskom to be used within Eskom as deemed required

3.6 Design of Equipment

Not applicable

3.7 Equipment required to be included in the *works*

The *Contractor* provides plant and materials, machinery, tools, labour, transportation, construction fuels, chemicals, construction utilities, and administration and other services and items required to complete the scope of work.

As per scope of work

3.8 As-built drawings, operating manuals and maintenance schedules

Contractor to submit a complete Data pack.

4 Procurement

4.1 People

4.1.1 Minimum requirements of people employed on the Site

Not applicable, 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

Not Applicable

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

Not Applicable

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 and Quality 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 and Quality 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*

Not Applicable

4.3.3 *Contractor*'s procurement of Plant and Materials

As per the Scope of work

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

The *Contractor* must make a provision for access for the inspection of the manufacturing pf the equipment's as and when required

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 *Contractor*'s Personnel and any visitors on the Project Site must be in possession of a valid identification card supplied by the *Employer*. Applications for identification cards shall be made in the form prescribed by the Project Manager. The identification cards shall be used to gain access to the Project Site and only persons with legitimate business on the Project Site and in possession of such identification cards will be allowed access. Applications for identification cards shall be made in good time prior to access being required. Lost, stolen or damaged cards shall be reported to the Project Manager immediately. A fee shall be charged for replacement cards. Identification card holders will be required to produce their identification cards for an ID photo at the security check points. Where a card holder's right of access to the Project Site is withdrawn, their identification card will be electronically cancelled. It is the responsibility of the *Contracto*r to ensure the card is returned to the Project Manager.

Removal of Goods from the Project Site
All persons removing *inter alia* materials, equipment, toolboxes, temporary facilities etc. from the Project Site must be in possession of a valid gate release permit. Applications for general or specific gate release permits shall be made in the form prescribed by the *Project Manager*.

Access Control for Vehicles
Only a limited number of *Contracto*r and Subcontractor non-construction vehicles will be allowed onto the Project Site.

Visitors
Before entering the Project Site, visitors (meaning any person other than the *Contractor*'s Personnel) must be in possession of a valid identification card as mentioned above. Applications shall be made in a form prescribed by the *Project Manager* prior to access being required and visitors must be in possession of positive identification. The *Contracto*r's visitors shall be subject to all Project Site rules and regulations including those related to Health & Safety and discipline

Fire-arms
Fire-arms will not be permitted on the Project Site (nor at other places, if any, as may be specified under the Contract as forming part of the Site). This restriction does not, however, apply to the South African Police Services in the pursuance of official duties and Security personnel approved by the *Project Manager.*

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. The *Contractor* shall inform the Project Manager in advance for any work that is planned to be executed outside the official working hours.

The *Employer*'s working hours are from:

- 07:00 to 16:30 Monday to Thursday
- 07:00 to 12:00 on Friday

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;
- 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

The Contractor will have to cooperate with others

5.1.8 Publicity and progress photographs

The taking of photographs at Matla Power Station including the Project works is restricted and subject to the approval by the Project Manager. For the purpose of the Progress Reporting Requirements, the Project Manager may prohibit the taking of such photographs and/or require that all such photographs be taken by the *Employer*. All notice boards, advertising rights and media relations should be published with the approval of the *Employe*r.

5.1.9 *Contractor*'s Equipment

- The *Contractor* provides all Equipment that is required to complete the works. The *Contractor* shall ensure that all his construction equipment remains within the fenced off in the allocated construction area.
- The *Contractor* shall ensure that any equipment moving outside his allocated construction site does not obstruct the normal operation of the power station. Any additional access routes required must be coordinated with the Project Manager.
- The *Contractor* must keep daily records of his equipment used on Site and the Working areas (distinguishing between owned and hired Equipment) with access to such daily records available for inspection by the Project Manager at all reasonable times.
- All Equipment used by the *Contractor* in providing the works shall comply with the General Machinery Regulation 4 of the Occupational Health and Safety Act (Act 85 of 1993)

5.1.10 Equipment provided by the *Employer*

No Equipment will be supplied by the *Employer*; however, the *Employer* does reserve the right to negotiate with the *Contractor* on the use of different equipment for whatever purpose that may become apparent at the time. The *Contracto*r supplies all equipment including cranes, scaffolding and any other equipment for the construction of the works and site establishment

5.1.11 Site services and facilities

Water

Water (Raw water and Fire water) will be made available on request free of charge from tapping points on site. Connection point to be provided by the *Employer*. The *Contractor* is responsible for connection from the tapping points to the *Contractor*'s yard. The *Contractor* shall have indicated his request in the Tender. Neither the *Employer* nor the Project Manager shall, however, be bound to approve any revised requirements.

Electricity

All power required for construction and lighting should be provided for by the *contractor*. The *Employer* will not supply electrical power for construction purposes.

5.1.12 Facilities provided by the *Contractor*

Contractor's offices and storage

The *Contractor* shall provide *contractor*'s offices to be used by the C*ontractor* during the duration of the contract. The yard will be kept clean and tidy at all times, this will include all workshops and storage areas under the control of the *Contractor*. Maintenance of the yard is the *Contractors* responsibility and is for the Project Managers acceptance. Outfall drainage of all surface run-off drains is constructed by the *Contractor* to the acceptance of the Project Manager to minimise erosion and to effect control of contaminated water

Rehabilitation

The *Contractor* is responsible for the rehabilitation of the areas of responsibility including lay down area. Amongst others, this shall include the removal of infrastructure such as offices, workshop areas, storage areas, etc

Ablution Facilities and Refuse

Where required, the *Contractor* shall provide and maintain adequate and suitable sanitized ablution facilities appropriate to the workforce size and work duration that conforms to the requirements of all applicable legislation. The ratio is 1 ablution to 15 employees for each gender. The separate ablution facilities shall be provided for both genders. These portable ablution facilities will be kept tidy and hygienic during the duration of the Project. Where the *Contractor* makes use of existing facilities provided by the project, the *Contractor* shall ensure that their employees support the aim of keeping these facilities clean and hygienic. The *Contractor* is to supply own sanitary facilities. A refuse and sewage control system will be established by the *Contractor*. The *Contractor* submits all safe disposal certificates and waste manifests to the Project Manager.

Accommodation

The *Contractor* **must** provide accommodation, and transportation to and from site for its employees. Transportation must also be provided for local employees.

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 Others

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

Noise

The *Contractor* shall conduct Health Risk Assessment to determine noise levels. If the noise level is medium or high, the *Contractor* shall implement control measures.

Dust and Air quality control

The dust shall be managed in such a manner that the *Contractor* complies with Environmental requirements and unnecessary complaints are prevented. The *Contractor* shall provide all the necessary equipment and tools to do dust suppression in their Contractor's laydown areas, surrounding areas and roads as well as in their working areas. The *Contractor* is also responsible for dust suppression on common areas, Eskom areas which are not used exclusively, or primarily by the Contractors. The *Contractor* must also dust supress on other areas that are affecting his works. Dust suppression measures shall be in place to reduce the dust caused by the movement of construction vehicles and other sources.

Water pollution control

The *Contractor* shall provide the method statement for water pollution control for the approval of the Project Manager. The *Contractor* shall implement appropriate storm water management control measures prior to construction to manage any erosions such as installing of sediment barriers and/or low berms along the downslope edge of cleared areas to trap sediments on site. Design of sediment barriers should be such that expected flow velocities will not damage the barriers or impair their function. Regular cleaning and maintenance of the barriers should be undertaken.

The *Contractor* shall ensure that there is no mix of clean and dirty water. The *Contractor* must inform the PM prior to the abstraction of water from any onsite water bodies.

Waste

For the purpose hereof, "waste" any matter, whether liquid or solid or any combination thereof, which is a by-product, emission, residue or remainder of any process or activity carried out in connection with the works and which is not reused on the Site in the ordinary course of carrying out the works within seven days of production.

The *Contractor* maintains a high standard of cleanliness during the conduct of his activities at Matla Power Station. This includes areas allocated for storage of materials, site offices etc. to the satisfaction of the Project Manager. The *Contractor* keeps these areas clean and free from accumulation of waste materials and refuse regardless of the source. The *Contractor* is responsible for the prompt removal of all waste to a designated disposal area. The disposal area will be on or in the vicinity of the Power Station and be indicated by the Project Manager.

The *Contractor* provides an adequate number of marked bins and containers at offices, in yards, at workshops and on the Site for the temporary storage of waste. These bins and containers are subject to approval by the Project Manager. The *Contractor* is required to segregate certain items of waste by type as designated by the Project Manager. Bins and containers are emptied and waste removed to the designated area at least once a week.

All the temporary storage areas for bins and containers are kept tidy and must not constitute a nuisance to others. The *Contractor* takes all required steps to avoid spillage of waste alongside the bins and containers during removal and disposal thereof. All waste that cannot be contained in either a bin or container is placed on a temporary waste site which the Project Manager identifies. No burning of waste and littering is allowed at the Power Station.

Hazardous waste is dealt with in accordance with the SHE Specification requirements of the works and the *Contractor* is solely responsible for the proper disposal thereof. Hazardous waste will be disposed of at an authorised landfill site. Waste register will be kept for record keeping and handed over at the end of the Project. The *Contractor* notifies the Project Manager of all chemical substances coming to site and keeps an inventory and MSDS of the chemicals.

5.1.18 Sequences of construction or installation

As per approved schedule

5.1.19 Giving notice of work to be covered up

The *Contractor* provides a notice of work to be covered up to the *Supervisor* as per the approved inspection test plans

5.1.20 Hook ups to existing works

The adjacent plant and equipment may not be modified without written permission from the *Project Manager.* The *Contractor* complies with Eskom Life Saving Rules and will report any non-conformance.

5.2 Completion, testing, commissioning and correction of Defects

5.2.1 Work to be done by the Completion Date

Completion will not be achieved until the *Contractor* has successfully completed and handed over all *Works* associated with the contract including the following amongst others;

- *Contractor* Application for Eskom's Inspection of the Works /Part of the Works,
- Data Packs (e.g. Material Certificates, Qualifications, NDT and Welding Documentation, Cutting Instructions, Factory Design Review Reports, etc.)
- Partial/final Inspection certificate,
- Defects Notification Certificate/Clearance,
- Red-lined drawings for engineering approval,
- Testing results,
- Safety and Housekeeping Certificate,
- Completion Certificate,
- Defects Certificate and

On or before the Completion Date the *Contractor* shall have done everything required to Provide the Works. The *Project Manager* cannot certify Completion until all the work 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.

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

As per the project manager’s instruction

5.2.3 Materials facilities and samples for tests and inspections

As per the project manager’s instruction

5.2.4 Commissioning

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

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

As per scope if work.

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

6 Plant and Materials standards and workmanship

6.1 Investigation, survey and Site clearance

Not applicable

6.2 Building works

Not applicable

6.3 Civil engineering and structural works

Not applicable

6.4 Electrical & mechanical engineering works

According to the scope of works and the specification

6.5 Process control and IT works

Not applicable

6.6 Other [as required]

7 List of drawings

7.1 Drawings issued by the *Employer*

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

Note: Some drawings may contain both Works Information and Site Information.

Drawing number	Revision	Title

C3.2 *CONTRACTOR*'S WORKS INFORMATION

This section of the Works Information will always be contract specific depending on the nature of the *works*.
It is most likely to be required for design and construct contracts where the tendering contractor will have proposed specifications and schedules for items of Plant and Materials and workmanship, which once accepted by the *Employer* prior to award of contract now become obligations of the *Contractor* per core clause 20.1.

Typical sub headings could be

a) *Contractor*'s design
b) Plant and Materials specifications and schedules
c) Other

This section could also be compiled as a separate file.

PART 4: SITE INFORMATION

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

5. General description

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.

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

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

7. Subsoil information

Not applicable

8. Hidden services

Not applicable

9. Other reports and publicly available information

Not applicable