NEC3 Engineering & Construction Contract

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

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

for **Reinstatement of the fence along kuipersbuld road and associated works at raw water pumpstation.**

Contents:

CONTRACT No. **[Insert at award stage]**

Part C1: Agreements & Contract Data

Contents:

C1.1 Form of Offer & Acceptance

- **Offer**

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

Reinstatement of the fence along kuipersbuild road and associated works at raw water pumpstation

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 the obligations and liabilities of the *Contractor* under the contract including compliance with all its terms and conditions according to their true intent and meaning for an amount to be determined in accordance with the *conditions of contract* identified in the Contract Data.

Options B	The offered total of the Prices exclusive of VAT is	**R**
	The first forecast of the total Defined Cost plus the Fee exclusive of VAT is	**R**
	Sub total	**R**
	Value Added Tax @ 15% is	**R**
	The offered total of the amount due inclusive of VAT is[1]	**R**
	(in words)	

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

Signature(s)

Name(s) .....

Capacity .....

For the tenderer: .....

Name & signature of witness *(Insert name and address of organisation)*

Date .....

Tenderer's CIDB registration number (if applicable)

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

- **Acceptance**

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

The terms of the contract are contained in:

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

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

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

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

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

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

Signature(s)

Name(s) ....

Capacity ....

....

for the Employer .....

(Insert name and address of organisation)

Name & signature of witness ..... Date .....

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

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

Note:

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

No.	Subject	Details
1		
2		
3		
4		
5		

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

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

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

C1.2 ECC3 Contract Data

Part one - Data provided by the *Employer*

Clause	Statement	Data
1	**General**	
	The *conditions of contract* are the core clauses and the clauses for main Option	
		B: **Priced contract with bill of quantities**
	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
		X18: Limitation of liability
		Z: *Additional conditions of contract*
	of the NEC3 Engineering and Construction Contract, April 2013 (ECC3)	
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
	Address	Registered office at Megawatt Park, Maxwell Drive, Sandton, Johannesburg
10.1	The *Project Manager* is: (Name)	
	Address	Medupi Power Station Project, Steenbokpan Road, Lephalale 0555
	Tel	
	e-mail	

10.1	The *Supervisor* is: (Name)	
	Address	Medupi Power Station Project, Steenbokpan Road, Lephalale 0555
	Tel No.	
	e-mail	
11.2(13)	The *works* are	The design, supply, construction, commissioning, and handover scope that a newly appointed Contractor shall undertake at Medupi Power Station. The scope shall be executed at the Medupi Power Station's Raw Water Pumpstation, as well as along the Kuipersbuld road leading up to the Raw Water Pumpstation (i.e. fencing along specific portions of Eskom owned property). The Contractors design, supply, installation and construction, commissioning, handover scope.
11.2(14)	The following matters will be included in the Risk Register	• Adverse Weather (Rain, Wind, Hailstorm, Heatwave) • Earthworks planning needs to take into consideration the rain. • Normal construction hazards working with machinery • Industrial Action • Community Unrest • Security of equipment, materials and resources • Substantial procurement of materials when required. • COVID 19 impact on labour force. • Access to existing areas • Unavailability of Generation plant due to electricity demand (plant not made available to work on) • Non-compliance to approved Environmental Management Programme • Contractor's poor performance during Project execution • Plant Access from Other Contractors • Working at heights • Hazardous gas • Electrocution • Power supply interruptions or failure • Contractor poor performance during project execution.

		• Uncertain integrated schedule. • Interface and Integration of the works with the running plant and other Contractors • Non-Compliance to the Permit to Work System • Dehydration (Hot Weather Conditions) • Fire and Smoke • Snakes • Normal construction hazards for • Mechanical Ash dust from the power Station plant
11.2(15)	The *boundaries of the site* are	Along the Kuipersbuld road and at the Raw Water Pumpstation **NB: Detailed description of the boundaries is further explained in the Works information.**
11.2(16)	The Site Information is in	Part 4: Site Information
11.2(19)	The Works Information is in	Part 3: Scope of Work and all documents and drawings to which it makes reference.
12.2	The *law of the contract* is the law of	the Republic of South Africa
13.1	The *language of this contract* is	English
13.3	The *period for reply* is	Within 7 (Seven) Calendar days (unless a deviation is agreed) Emergency Response: 6 (Six) hours
2	**The *Contractor's* main responsibilities**	Data required by this section of the core clauses is provided by the *Contractor* in Part 2 and terms in italics used in this section are identified elsewhere in this Contract Data.
3	**Time**	
11.2(3)	The *completion date* for the whole of the *works* is	**30 Apr 2024**
11.2(9)	The *key date*s and the *condition*s to be met are:	

	***Condition* to be met**	***key date***
1	Access to site	02 Oct 23
2.	Design finalisation and acceptance	14 Dec 23
3.	Supply, Installations and/or Construction	22 Mar 24

		4. Commissioning	25 Apr 24
		5. Handover	30 Apr 24
30.1	The *access dates* are:	**Part of the Site**	**Date**
		Medupi Power Station	02 Oct 2023
31.1	The *Contractor* is to submit a first programme for acceptance within	Two (2) weeks after the Contract Date.	
31.2	The *starting date* is	02 Oct 2023	
32.2	The *Contractor* submits revised programmes at intervals no longer than	7(Seven) working days.	
4	**Testing and Defects**		
42.2	The *defects date* is	52 (Fifty-Two) weeks after Completion of the Section of the *works* as per the Accepted Programme	
43.2	The *defect correction period* is	08 hours for emergencies or breakdowns and 4 working days for normal defects	
5	**Payment**		
50.1	The *assessment interval* is	On the 25th day of each successive month.	
51.1	The *currency of this contract* is the	South African Rand.	
51.2	The period within which payments are made is	**30 calendar days after receipt of a valid tax invoice.**	
51.4	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.
6	**Compensation events**	
60.1(13)	The place where weather is to be recorded is:	Medupi Power Station
	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 snow lying at 09:00 hours South African Time and these measurements:
	The *weather measurements* are supplied by	The South African Weather Services
	The *weather data* are the records of past *weather measurements* for each calendar month which were recorded at:	Medupi Power Station
	and which are available from:	the South African Weather Bureau
7	**Title**	**Reinstatement of the fence along Kuipersbuild road and associated works at raw water Pumpstation**
8	**Risks and insurance**	
80.1	These are additional *Employer*'s risks	Theft, vandalism and damage to works after take over Damage to the works after take over but before the Defects Certificate
9	**Termination**	**There is no reference to Contract Data in this section of the core clauses and terms in italics used in this section are identified elsewhere in this Contract Data.**
10	**Data for main Option clause**	
A	**Priced contract with activity schedule**	There is no reference to Contract Data in this Option and terms in italics are identified elsewhere

		in this Contract Data.

11 Data for Option W1

W1.1	The *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).**
W1.2(3)	The *Adjudicator nominating body* is:	the Chairman of ICE-SA a joint Division of the South African Institution of Civil Engineering and the London Institution of Civil Engineers. (See www.ice-sa.org.za) or its successor body.
W1.4(2)	The *tribunal* is:	arbitration.
W1.4(5)	The *arbitration procedure* is	the latest edition of Rules for the Conduct of Arbitrations published by The Association of Arbitrators (Southern Africa) or its successor body.
	The place where arbitration is to be held is	Johannesburg, South Africa
	The person or organisation who will choose an arbitrator - if the Parties cannot agree a choice or - if the arbitration procedure does not state who selects an arbitrator, is	the Chairman for the time being or his nominee of the Association of Arbitrators (Southern Africa) or its successor body.

12 Data for secondary Option clauses

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	Complete All Designs	14 Dec 23
		2	Parkhome	22 Jan 24
		3	Fence	22 Mar 24
		4	LPS Structures	22 Apr 24
		5	Testing and Commissioning	25 Apr 24

		6	Databook Submissions	25 Apr 24
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	Completion of all Designs	R20 000.00 up to a limit of 10% of this total sectional Price.
		2	Completion of the Section 2	R20 000.00 up to a limit of 10% of this total sectional Price.
		3	Completion of the Section 3	R20 000.00 up to a limit of 10% of this total sectional Price.
		4	Completion of the Section 4	R20 000.00 up to a limit of 10% of this total sectional Price.
		5	Testing, Commissioning and final Handover of Databooks	R20 000.00 up to a limit of 10% of this total sectional Price.
	Remainder of the *works*			
	The total delay damages payable by the *Contractor* does not exceed:	The amount payable of 10% of the contract value		
X13	**Performance bond**			
X13.1	The amount of the performance bond is	**10% of the contract value at Contract Date**		
X16	**Retention**			
X16.1	The *retention free amount* is	R0.00.		
	The *retention percentage* is	10 % of the total of the Prices		

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) 2 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 *Additional conditions of contract* are**	**Z1 to Z15 always apply.**

Z1 Cession delegation and assignment

Z1.1 The *Contractor* does not cede, delegate or assign any of its rights or obligations to any person without the written consent of the *Employer.*

Z1.2 Notwithstanding the above, the *Employer* may on written notice to the *Contractor* cede and delegate its rights and obligations under this contract to any of its subsidiaries or any of its present divisions or operations which may be converted into separate legal entities as a result of the restructuring of the Electricity Supply Industry.

Z2 Joint ventures

Z2.1 If the *Contractor* constitutes a joint venture, consortium or other unincorporated grouping of two or more persons or organisations then these persons or organisations are deemed to be jointly and severally liable to the *Employer* for the performance of this contract.

Z2.2 Unless already notified to the *Employer*, the persons or organisations notify the *Project Manager* within two weeks of the Contract Date of the key person who has the authority to bind the *Contractor* on their behalf.

Z2.3 The *Contractor* does not alter the composition of the joint venture, consortium or other unincorporated grouping of two or more persons without the consent of the *Employer* having been given to the *Contractor* in writing.

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

Z3.1 Where a change in the *Contractor's* legal status, ownership or any other change to his business composition or business dealings results in a change to the *Contractor*'s B-BBEE status, the *Contractor* notifies the *Employer* within seven days of the change.

Z3.2 The *Contractor* is required to submit an updated verification certificate and necessary supporting documentation confirming the change in his B-BBEE status to the *Project Manager* within thirty days of the notification or as otherwise instructed by the *Project Manager*.

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

Z3.4 Failure by the *Contractor* to notify the *Employer* of a change in its B-BBEE status may

constitute a reason for termination. If the *Employer* terminates in terms of this clause, the procedures on termination are P1, P2 and P3 as stated in clause 92, and the amount due is A1 and A3 as stated in clause 93.

Z4 Confidentiality

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

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

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

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

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

Z5 Waiver and estoppel: Add to core clause 12.3:

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

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

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

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

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

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

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

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

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

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

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

Z8 Notifying compensation events

Z8.1 If the Contractor does not notify a compensation event within eight weeks of becoming aware of the event, he is not entitled to a change in the Prices.

Z9 *Employer's* limitation of liability

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

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

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

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

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

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

Z12 Ethics

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

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

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

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

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

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

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

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

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

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

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

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

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

Z13 Insurance

Z 13.1 Replace core clause 84 with the following:

Insurance cover **84**

84.1 When requested by a Party, the other Party provides certificates from his insurer or broker stating that the insurances required by this contract are in force.

84.2 The *Contractor* provides the insurances stated in the Insurance Table A.

84.3 The insurances provide cover for events which are at the *Contractor*'s risk from the *starting date* until the earlier of Completion and the date of the termination certificate.

INSURANCE TABLE A

Insurance against	**Minimum amount of cover or minimum limit of indemnity**
Loss of or damage to the *works*, Plant and Materials	The replacement cost where not covered by the *Employer*'s insurance The *Employer*'s policy deductible, as at 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 *works*, 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 insurance The *Employer*'s policy deductible, as at 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 law
Liability for death of or bodily injury to employees of the *Contractor* arising	The amount required by the applicable law

out of and in the course of their employment in connection with this contract	

Z 13.2 **Replace core clause 87 with the following:**
The *Employer* provides the insurances stated in the Insurance Table B.

INSURANCE TABLE B

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

Z14 Nuclear Liability

Z14.1 The *Employer* is the operator of the Koeberg Nuclear Power Station (KNPS), a nuclear installation, as designated by the National Nuclear Regulator of the Republic of South Africa and is the holder of a nuclear licence in respect of the KNPS.

Z14.2 The *Employer* is solely responsible for and indemnifies the *Contractor* or any other person against any and all liabilities which the *Contractor* or any person may incur arising out of or resulting from nuclear damage, as defined in Act 44 of 1999, save to the extent that any liabilities are incurred due to the unlawful intent of the *Contractor* or any other person or the presence of the *Contractor* or that person or any property of the *Contractor* or such person at or in the KNPS or on the KNPS site, without the permission of the *Employer* or of a person acting on behalf of the *Employer*.

Z14.3 Subject to clause Z14.4 below, the *Employer* waives all rights of recourse, arising from the aforesaid, save to the extent that any claims arise or liability is incurred due or attributable to the unlawful intent of the *Contractor* or any other person, or the presence of the *Contractor* or that person or any property of the *Contractor* or such person at or in the KNPS or on the KNPS site, without the permission of the *Employer* or of a person acting on behalf of the *Employer*.

Z14.4 The *Employer* does not waive its rights provided for in section 30 (7) of Act 44 of 1999, or any

replacement section dealing with the same subject matter.

Z14.5 The protection afforded by the provisions hereof shall be in effect until the KNPS is decommissioned.

Z15 Asbestos

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

AAIA means approved asbestos inspection authority.

ACM means asbestos containing materials.

AL means action level, i.e. a level of 50% of the OEL, i.e. 0.1 regulated asbestos fibres per ml of air measured over a 4 hour period. The value at which proactive actions is required in order to control asbestos exposure to prevent exceeding the OEL.

Ambient Air means bbreathable 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 ooccupational exposure limit.

Parallel Measurements means mmeasurements 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, normalized to the baseline of a 4 hour continuous period, also applicable to short term exposures, i.e. 10-minute TWA.

Z15.1 The *Employer* ensures that the Ambient Air in the area where the *Contractor* will Provide the Services conforms to the acceptable prescribed South African standard for asbestos, as per the regulations published in GNR 155 of 10 February 2002, under the Occupational Health and Safety Act, 1993 (Act 85 of 1993) ("Asbestos Regulations"). The OEL for asbestos is 0.2 regulated asbestos fibres per millilitre of air as a 4-hour TWA, averaged over any continuous period of four hours, and the short term exposure limit of 0.6 regulated asbestos fibres per millilitre of air as a 10-minute TWA, averaged over any 10 minutes, measured in accordance with

HSG248 and monitored according to HSG173 and OESSM.

Z15.2 Upon written request by the *Contractor*, the *Employer* certifies that these conditions prevail. All measurements and reporting are effected by an independent, competent, and certified occupational hygiene inspection body, i.e. a SANAS accredited and Department of Employment and Labour approved AAIA. The *Contractor* may perform Parallel Measurements and related control measures at the *Contractor*'s expense. For the purposes of compliance, the results generated from Parallel Measurements are evaluated only against South African statutory limits as detailed in clause Z15.1. Control measures conform to the requirements stipulated in the AAIA-approved asbestos work plan.

Z15.3 The *Employer* manages asbestos and ACM according to the Standard.

Z15.4 In the event that any asbestos is identified while Providing the Services, a risk assessment is conducted and if so required, with reference to possible exposure to an airborne concentration of above the AL for asbestos, immediate control measures are implemented and relevant air monitoring conducted in order to declare the area safe.

Z15.5 The *Contractor*'s personnel are entitled to stop working and leave the contaminated area forthwith until such time that the area of concern is declared safe by either Compliance Monitoring or an AAIA approved control measure intervention, for example, per the emergency asbestos work plan, if applicable.

Z15.6 The *Contractor* continues to Provide the Services, without additional control measures presented, on presentation of Safe Levels. The contractually agreed dates to Provide the Services, including the Completion Date, are adjusted accordingly. The contractually agreed dates are extended by the notification periods required by regulations 3 and 21 of the Asbestos Regulations, 2001.

Z15.7 Any removal and disposal of asbestos, asbestos containing materials and waste, is done by a registered asbestos contractor, instructed by the *Employer* at the *Employer*'s expense, and conducted in line with South African legislation.

C1.2 Contract Data

• Part two - Data provided by the *Contractor*

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

Notes to a tendering contractor:

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

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

• **Clause**	• **Statement**	• **Data**
10.1	The *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	

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

	Responsibilities: Qualifications: 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 figures)** **(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**		
41 in SSCC	The percentage for people overheads is:	**%**		
21 in SSCC	The published list of Equipment is the last edition of the list published by The percentage for adjustment for Equipment in the published list is	**Minus %**		
22 in SSCC	The rates of other Equipment are:	**Equipment**	**Size or capacity**	**Rate**

61 in SSCC	The hourly rates for Defined Cost of design outside the Working Areas are **Note: Hourly rates are estimated 'cost to company of the employee' and not selling rates.** **Please insert another schedule if foreign resources may also be used**	**Category of employee**		**Hourly rate**
62 in SSCC	The percentage for design overheads is	**%**		
63 in SSCC	The categories of design employees whose travelling expenses to and from the Working Areas are included in Defined Cost are:			
	If Option C, D or E is used	**Data for Schedule of Cost Components**		
23 in SCC	The listed items of Equipment purchased for work on this contract, with an on cost charge, are:	**Equipment**	**Time related charge**	**Per (time period)**
24 in SCC	The rates of special Equipment are:	**Equipment**	**Size or capacity**	**Rate**
44 in SCC	The percentage for Working Areas overheads is:	: **%**		
51 in SCC	The hourly rates for Defined Cost of manufacture or fabrication outside the Working Areas are **Note: Hourly rates are estimated 'cost to company of the employee' and not selling rates**	**Category of employee**		**Hourly rate**

	Please insert another schedule if foreign resources may also be used			
52 in SCC	The percentage for manufacture and fabrication overheads is	**%**		
	If Option C, D, or E is used	**Data for both schedules of cost components**		
61 in SCC & SSCC	The hourly rates for Defined Cost of design outside the Working Areas are **Note: Hourly rates are estimated 'cost to company of the employee' and not selling rates.** **Please insert another schedule if foreign resources may also be used**	**Category of employee**	**Hourly rate**	
62 in SCC & SSCC	The percentage for design overheads is	**%**		
63 in SCC & SSCC	The categories of design employees whose travelling expenses to and from the Working Areas are included as a cost of design of the *works* and Equipment done outside the Working Areas are:			
	If Option C, D or E is used	**Data for the Shorter Schedule of Cost Components**		
41 in SSCC	The percentage for people overheads is:	**%**		
21 in SSCC	The published list of Equipment is the last edition of the list published by The percentage for adjustment for Equipment in the published list is	**%**		
22 in SSCC	The rates of other Equipment are:	**Equipment**	**Size or capacity**	**Rate**

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 X13: Performance Bond

Each of these secondary Options requires a bond or guarantee "in the form set out in the Works Information". Pro forma documents for these bonds and guarantees are provided here for convenience but are to be treated as part of the Works Information.

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 ASGI-SA Obligations by providing the *Employer* with an ASGI-SA Guarantee in the form provided here.

[Note to contract compiler: If there are no ASGI-SA Obligations in this contract, delete the above statement]

The organisation providing the bond / guarantee does so by copying the pro forma document onto his letterhead without any change to 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.

Pro forma Performance Bond – Demand Guarantee (for use with Option X13)

(to be reproduced exactly as shown below on the letterhead of the Contractor's Parent Company)

Eskom Holdings SOC Ltd
Megawatt Park
Maxwell Drive
Sandton
Johannesburg Date:

Dear Sirs

Reference No. **[●]** *[Drafting Note: Bank reference number to be inserted]*

Performance Bond – Demand Guarantee: *[Drafting Note: Name of Contractor to be inserted]*

Project [ ] Contract Reference: …… *[Drafting Note: Contractor contract reference number to be inserted]*

In this Guarantee the following words and expressions shall have the following meanings:-

"Bank" - means [●], [●] Branch, (Registration No. [●]); [Drafting Note: Name of Bank to be inserted]

"Bank's Address" - means [●]; [Drafting Note: Bank's physical address to be inserted]

"Contract" – means the written agreement relating to the Project, entered into between Eskom and the Contractor, on or about the [●] day of [●] 200[●] (Contract Reference No. [.]as amended, varied, restated, novated or substituted from time to time; [Drafting Note: Signature Date and Contract reference number to be inserted]

"Contractor" – means [●] a company registered in accordance with the laws of [●] under Registration Number [●]. [Drafting Note: Name and details of Contractor to be inserted]

"Eskom" - means Eskom Holdings SOC Ltd, a company registered in accordance with the laws of the Republic of South Africa under Registration Number 2002/015527/30].

"Expiry Date" - means the date on which the Defects Certificate is issued in terms of the Contract.

"Guaranteed Sum" - means the sum of R [●] ([●] Rand);

"Project" - means [insert if applicable.].

At the instance of the Contractor, we the undersigned _____ and _____, in our respective capacities as _____ and _____ of the Bank, and duly authorized thereto, confirm that we hold the Guaranteed Sum at the disposal of Eskom, as security for the proper performance by the Contractor of all of its obligations in terms of and arising from the Contract and hereby undertake to pay to Eskom, on written demand from Eskom received prior to the Expiry Date, any sum or sums not exceeding in total the Guaranteed Sum.

A demand for payment under this guarantee shall be made in writing at the Bank's address and shall:

be signed on behalf of Eskom by a Group Executive, Divisional Executive, Senior General Manager, General Manager or its delegate;

state the amount claimed ("the Demand Amount');
state that the Demand Amount is payable to Eskom in the circumstances contemplated in the Contract.
Notwithstanding the reference herein to the Contract the liability of the Bank in terms hereof is as principal and not as surety and the Bank's obligation/s to make payment:
is and shall be absolute provided demand is made in terms of this bond in all circumstances; and
is not, and shall not be construed to be, accessory or collateral on any basis whatsoever.

The Bank's obligations in terms of this Guarantee:
shall be restricted to the payment of money only and shall be limited to the maximum of the Guaranteed Sum; and shall not be discharged and compliance with any demand for payment received by the Bank in terms hereof shall not be delayed, by the fact that a dispute may exist between Eskom and the Contractor.

Eskom shall be entitled to arrange its affairs with the Contractor in any manner which it sees fit, without advising us and without affecting our liability under this Guarantee. This includes, without limitation, any extensions, indulgences, release or compromise granted to the Contractor or any variation under or to the Contract.

Should Eskom cede its rights against the Contractor to a third party where such cession is permitted under the Contract, then Eskom shall be entitled to cede to such third party the rights of Eskom under this Guarantee on written notification to the Bank of such cession.

This Guarantee:
shall expire on the Expiry Date until which time it is irrevocable;
is, save as provided for in 0 above, personal to Eskom and is neither negotiable nor transferable;
shall be returned to the Bank upon the earlier of payment of the full Guaranteed Sum or expiry hereof;
shall be regarded as a liquid document for the purpose of obtaining a court order; and
shall be governed by and construed in accordance with the law of the Republic of South Africa and shall be subject to the jurisdiction of the Courts of the Republic of South Africa.

Any claim which arises or demand for payment received after expiry date will be invalid and unenforceable.

The Bank chooses domicilium citandi et executandi for all purposes in connection with this Guarantee at the Bank's Address.

Signed at _____ Date _____

For and behalf of the Bank

Bank Signatory: _____ Bank Signatory: _____

Witness: _____ Witness: _____
Bank's seal or stamp

Pro forma Retention Money Guarantee (may be used when Option X16 applies)

(to be reproduced exactly as shown below on the letterhead of the Bank providing the Guarantee)

Eskom Holdings SOC Limited
Megawatt Park
Maxwell Drive
Sandton
Johannesburg Date:

Dear Sirs

Reference No. **[●]** *[Drafting Note: Bank reference number to be inserted]*

Retention Money Guarantee: *[Drafting Note: Name of Contractor to be inserted]*

Project [ ] : Contract Reference: *[Drafting Note: Contractor contract reference number to be inserted]*

1. In this Guarantee the following words and expressions shall have the following meanings:-

1.1 "Bank" - means [●], [●] Branch, (Registration No. [●]); [Drafting Note: Name of Bank to be inserted]

1.2 "Bank's Address" - means [●]; [Drafting Note: Bank's physical address to be inserted]

1.3 "Contract" – means the written agreement relating to the Project, entered into between Eskom and the Contractor, on or about the [●] day of [●] 200[●] (Contract Reference No. ……. as amended, varied, restated, novated or substituted from time to time; [Drafting Note: Signature Date and Contract reference number to be inserted]

1.4 "Contractor" – means [●] a company registered in accordance with the laws of [●] under Registration Number [●]. [Drafting Note: Name and details of Contractor to be inserted]

1.5 "Eskom" - means Eskom Holdings SOC Limited, a company registered in accordance with the laws of the Republic of South Africa under Registration Number 2002/015527/30

1.6 "Expiry Date" - means the date on which the Defects Certificate is issued in terms of the Contract.

1.7 "Guaranteed Sum" - means the sum of R [●] ([●] Rand); [Drafting Note: Insert amount of Retention Money Guarantee.].

1.8 "Project" - means the……..

2. At the instance of the Contractor, we the undersigned _____ and _____, in our respective capacities as _____ and _____ of the Bank, and duly authorized thereto, confirm that we hold the Guaranteed Sum at the disposal of Eskom, as security for the proper performance by the Contractor of all of its obligations in terms of and arising from the Contract and hereby undertake to pay to Eskom, on written demand from Eskom received prior to

the Expiry Date, any sum or sums not exceeding in total the Guaranteed Sum.

3. A demand for payment under this guarantee shall be made in writing at the Bank's address and shall:

3.1 be signed on behalf of Eskom by a director of Eskom or his authorised delegate.

3.2 state the amount claimed ("the Demand Amount');

3.3 state that the Contractor has failed to carry out his obligation(s) to rectify certain defect(s) for which he is responsible under the Contract (and the nature of such defect(s)) alternatively that the Demand Amount is payable to Eskom in the circumstances contemplated in the Contract.

4. Notwithstanding the reference herein to the Contract the liability of the Bank in terms hereof is as principal and not as surety and the Bank's obligation/s to make payment:

4.1 is and shall be absolute provided demand is made in terms of this bond in all circumstances; and

4.2 is not, and shall not be construed to be, accessory or collateral on any basis whatsoever.

5. The Bank's obligations in terms of this Guarantee:

5.1 shall be restricted to the payment of money only and shall be limited to the maximum of the Guaranteed Sum; and

5.2 shall not be discharged and compliance with any demand for payment received by the Bank in terms hereof shall not be delayed by the fact that a dispute may exist between Eskom and the Contractor.

6. Eskom shall be entitled to arrange its affairs with the Contractor in any manner which it sees fit, without advising us and without affecting our liability under this Guarantee. This includes, without limitation, any extensions, indulgences, release or compromise granted to the Contractor or any variation under or to the Contract.

7. Should Eskom cede its rights against the Contractor to a third party where such cession is permitted under the Contract, then Eskom shall be entitled to cede to such third party the rights of Eskom under this Guarantee on written notification to the Bank of such cession.

8. This Guarantee:

8.1 shall expire on the Expiry Date until which time it is irrevocable;

8.2 is, save as provided for in **0** above, personal to Eskom and is neither negotiable nor transferable;

8.3 shall be returned to the Bank upon the earlier of payment of the full Guaranteed Sum or expiry hereof;

8.4 shall be regarded as a liquid document for the purpose of obtaining a court order; and

8.5 shall be governed by and construed in accordance with the law of the Republic of South Africa and shall be subject to the jurisdiction of the Courts of the Republic of South Africa.

8.6 Any claim which arises or demand for payment received after expiry date will be invalid and unenforceable.

9. The Bank chooses domicilium citandi et executandi for all purposes in connection with this Guarantee at the Bank's Address.

Signed at _____ Date _____ Bank's seal or stamp

For and behalf of the Bank

Bank Signatory: _____ Bank Signatory: _____

Witness: _____ Witness: _____

Pro forma ASGI-SA Guarantee

(to be reproduced exactly as shown below on the letterhead of the Bank providing the Guarantee)

Eskom Holdings Limited
Megawatt Park
Maxwell Drive
Sandton
Johannesburg Date:

Dear Sirs

Reference No. **[●]** *[Drafting Note: Bank reference number to be inserted]*

Pro-Forma ASGI-SA Guarantee: *[Drafting Note: Name of Contractor to be inserted]*

Project [ ] Contract Reference: **[●]** *[Drafting Note: Contractor contract reference number to be inserted]*

1. In this Guarantee the following words and expressions shall have the following meanings:-

1.1 "Bank" - means [●], [●] Branch, (Registration No. [●]); [Drafting Note: Name of Bank to be inserted]

1.2 "Bank's Address" - means [●]; [Drafting Note: Bank's physical address to be inserted]

1.3 "Contract" – means the written agreement relating to the Project, entered into between the *Employer* and the *Contractor*, on or about the [●] day of [●] 200[●] (Contract Reference No. **[●]** as amended, varied, restated, novated or substituted from time to time; [Drafting Note: Signature Date and Contract reference number to be inserted]

1.4 "*Contractor*" – means [●] a company registered in accordance with the laws of [●] under Registration Number [●]. [Drafting Note: Name and details of Contractor to be inserted]

1.5 "*Contractor's* ASGI-SA Obligations" – means the *Contractor's* ASGI-SA Obligations under and as defined in the Contract.

1.6 "*Employer*" - means Eskom Holdings Limited, a company registered in accordance with the laws of the Republic of South Africa under Registration Number 2002/015527/06.

1.7 "Expiry Date" - means the [●] day of [●] 200[●]; [Drafting Note: anticipated date of issue of ASGI-SA Performance Certificate to be inserted.]

1.8 "Guaranteed Sum" - means the sum of R [●] ([●] Rand);

1.9 "Project" – means the ……

2. At the instance of the *Contractor*, we the undersigned _____ and _____, in our respective capacities as _____ and _____ of the Bank, and duly authorized thereto, confirm that we hold the Guaranteed Sum at the disposal of the *Employer*, as security for the proper performance by the *Contractor* of the *Contractor's* ASGI-SA Obligations and hereby undertake to pay to the *Employer*, on written demand from the *Employer* received prior to the Expiry Date, any sum or sums not exceeding in total the Guaranteed Sum.

3. A demand for payment under this guarantee shall be made in writing at the Bank's address and shall:

3.1 state the amount claimed ("the Demand Amount');

3.2 state that the Demand Amount is payable to the *Employer* in the circumstances contemplated in the Contract.

4. Notwithstanding the reference herein to the Contract the liability of the Bank in terms hereof is as principal and not as surety and the Bank's obligation/s to make payment:

4.1 is and shall be absolute provided demand is made in terms of this bond in all circumstances; and

4.2 is not, and shall not be construed to be, accessory or collateral on any basis whatsoever.

5. The Bank's obligations in terms of this Guarantee:

5.1 shall be restricted to the payment of money only and shall be limited to the maximum of the Guaranteed Sum; and

5.2 shall not be discharged and compliance with any demand for payment received by the Bank in terms hereof shall not be delayed, by the fact that a dispute may exist between the *Employer* and the *Contractor*.

6. The *Employer* shall be entitled to arrange its affairs with the *Contractor* in any manner which it sees fit, without advising us and without affecting our liability under this Guarantee. This includes, without limitation, any extensions, indulgences, release or compromise granted to the *Contractor* or any variation under or to the Contract.

7. Should the *Employer* cede its rights against the *Contractor* to a third party where such cession is permitted under the Contract, then the *Employer* shall be entitled to cede to such third party the rights of the *Employer* under this Guarantee on written notification to the Bank of such cession.

8. This Guarantee:

8.1 shall expire on the Expiry Date until which time it is irrevocable;

8.2 is, save as provided for in **0** above, personal to the *Employer* and is neither negotiable nor transferable;

8.3 shall be returned to the Bank upon the earlier of payment of the full Guaranteed Sum or expiry hereof;

8.4 shall be regarded as a liquid document for the purpose of obtaining a court order; and

8.5 shall be governed by and construed in accordance with the law of the Republic of South Africa and shall be subject to the jurisdiction of the courts of the Republic of South Africa.

8.6 Any claim which arises or demand for payment received after expiry date will be invalid and unenforceable.

9. The Bank chooses domicilium citandi et executandi for all purposes in connection with this Guarantee at the Bank's Address.

Signed at _____ Date _____

For and behalf of the Bank

Bank Signatory: _____ Bank Signatory: _____

Witness: _____ Witness: _____
Bank's seal or stamp

PART C2: PRICING DATA

ECC3 Option B

Document reference	Title	No of pages
C2.1	Pricing assumptions: Option B	
C2.2	The *bill of quantities*	

C2.1 Pricing assumptions: Option B

1. How work is priced and assessed for payment

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

Identified and defined terms 11 11.2 (21) The Bill of Quantities is the *bill of quantities* as changed in accordance with this contract to accommodate implemented compensation events and for accepted quotations for acceleration.

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

- the quantity of the work which the *Contractor* has completed for each item in the Bill of Quantities multiplied by the rate and
- a proportion of each lump sum which is the proportion of the work covered by the item which the *Contractor* has completed.

Completed work is work without Defects which would either delay or be covered by immediately following work.
(31) The Prices are the lump sums and the amounts obtained by multiplying the rates by the quantities for the items in the Bill of Quantities.

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

2. Function of the Bill of Quantities

Clause 55.1 in Option B states, “Information in the Bill of Quantities is not Works Information or Site Information”. This confirms that specifications and descriptions of the work or any constraints on how it is to be done are not included in the Bill, but in the Works Information. This is further confirmed by Clause 20.1 which states, “The *Contractor* Provides the Works in accordance with the Works Information”. Hence the *Contractor* does **not** Provide the Works in accordance with the Bill of Quantities. The Bill of Quantities is only a pricing document.

3. Guidance before pricing and measuring

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

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

When compensation events arise, the default position is that the Bill of Quantities is not used to calculate

the cost effect of the event. Defined Cost and the resulting Fee is used and Defined Cost includes all components of cost which the *Contractor* is likely to incur, including so called P & G items. Rates and lump sums from the Bill of Quantities, or from any other source, may be used instead of Defined Cost and the Fee only if the *Contractor* and *Project Manager* agree. If they are unable to agree, then Defined Cost plus Fee is used.

4. Measurement and payment

4.1. Symbols

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

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

4.2. General assumptions

4.2.1. Unless otherwise stated, items are measured net in accordance with the drawings, and no allowance has been made in the quantities for waste.

4.2.2. The Prices and rates stated for each item in the Bill of Quantities shall be treated as being fully inclusive of all work, risks, liabilities, obligations, overheads, profit and everything necessary as incurred or required by the *Contractor* in carrying out or providing that item.

4.2.3. An item against which no Price is entered will be treated as covered by other Prices or rates in the *bill of quantities*.

4.2.4. The quantities contained in the Bill of Quantities may not be final and do not necessarily represent the actual amount of work to be done. The quantities of work assessed and certified for payment by the *Project Manager* at each assessment date will be used for determining payments due.

4.2.5. The short descriptions of the items of payment given in the *bill of quantities* are only for the purposes of identifying the items. Detail regarding the extent of the work entailed under each item is provided in the Works Information.

4.3. Departures from the *method of measurement*

4.3.1.

4.4. Amplification of or assumptions about measurement items

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

4.4.1.

C2.2 the *bill of quantities*

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

Description	Unit	QTY	RATE	AMOUNT
Preliminaries & General				
P&G's**: for the completion of the Boundary Fence, LPS Fence & Free Issued Raw Water Cabin Conversion and Associated Works.**	sum	1	R	R
1500mm High Boundary Fence				
EARTHWORKS				
Site Clearance				
Clearing of vegetation & shrubs n/e 200mm for the installtaion of the fence (allowance of 500mm width)	m^2	2347,00		
Excavations, Filling etc				
Excavate in earth for holes n/e 2m deep	m^3	12,17		
Cart Away				
Extra over for carting away excavated material from excavations	m^3	12,17		
Rip & Compact Surfaces				
Rip & Compact surface to a depth of 150mm thick	m^2	2347,00		
CONCRETE, FORMWORK AND REINFORCEMENT				
35Mpa/19mm stone concrete in foundations cast against excavated surfaces	m^3	13,51		
Testing				
Concrete cube testing	No.	8		
EXTERNAL WORKS				
Fencing				
Boundary Cattle Fencing approximately 1500mm high above NGL, preparation of the area to be fenced shall include the clearing of any shrubs or bushes which may hinder the fence installation.Tying wire to be 2,0mm dia mild steel lightly galvanised for tying fence wire to standards and droppers.				

Corner Post - ⌀ 76 N.B x 2500 long tubing (MED Class)	No.	12		
Stay 2.4mx60mmx3mm with base plate 200x200x3mm	No	40		
Strain Post - ⌀ 76 N.B x 2500 long tubing (MED Class) - spacing 37,5mm c/c max with a cast iron cap and a 200mmx200mm footplate	No.	126		
Fencing Standard - 2150 long x 2.5 kg/m 'Y' Section (span between standards 6250 crs maximum) provided with a protective coating of tar or other approved material.	No.	752		
Dropper - 1550 Long x 0.56 kg/m Ridgeback Section(pattern provided with a protective coating of tar or other approved materialspaced @ 1.25m max	No.	3756		
15 runs of single H.T steel strand campeon 2.24mm thick galvanised class A barbed wire (spaced @ 150mm c/c) - 845m per roll	roll	83		
Binding Wire F/G 2.5mm - 50kg	roll	4		
Double Leaf Gate:				
Double leaf gate 6000mm x 1730mm high formed of ⌀ 40mm N.B.MED. Class Black Steel Tube x 12 S.W.G and 65mm Diamond Mesh x 14S.W.G. ⌀2mm and 6No. ⌀20mm N.B. MED. Class 12 S.W.G , with 4 x 12mm thick ring welded to gate, ⌀ 28mm eye bolt and ⌀32mm hole for ⌀28mm eye bolt	No.	4		
Bounding strap between posts min 500 below N.G.L - 40x6 galvanised mild steel Flat Bar	m	18,00		
Strut - ⌀ 60 N.B x 2400 long tubing (MED. Class) with a 200x200mm Footplate	No.	260		
Gate Posts - ⌀101 OD.x 2000 long tubing (MED. Class) with a pressed steel or cast iron cap including a 200x200x5 M.S Plate	No.	8		
Stay 2.4mx60mmx3mm with base plate 200x200x3mm	No	8		
600 length of ⌀8mm long link steel chain with ⌀ 50 x ⌀ 8 rings welded on ends	No.	4		
Security Padlock with 2 sets of keys	No.	4		
Personnel Gate:				

Personnel Gate - 1000mm opening x 1700mm high formed of ⌀ 40 N.B MED Class Black Steel Tube x 12 S.W.G	No	4		
Bounding strap between posts min 500 below N.G.L - 40x6 galvanised mild steel Flat Bar	m	4,00		
Gate Post - ⌀ 101 OD. x 2000 long tubing (MED Class)	No.	8		
Stay 2.4mx60mmx3mm with base plate 200x200x3mm	No	8		
600 length of ⌀8mm long link steel chain with ⌀ 50 x ⌀ 8 rings welded on ends	No.	4		
Security Padlock with 2 sets of keys	No.	4		
Provisional Sums				
The design, construction, supply, installation, commisioning and handover details including all other professional services to be rendered by the Contractor	sum	1		
Perform the necessary surveys & geotechnical investigations to enable the reinstatement of an Eskom boundary fence	sum	1		
Allow for KKs	sum	1		
Signage	sum	1		

2 x LPS Structures Fencing

Description	Unit	QTY	RATE	AMOUNT
EARTHWORKS				
Site Clearance				
Clearing of vegetation & shrubs n/e 200mm for the installtaion of the fence (allowance of 500mm width)	m^2	537,00		
Excavations, Filling etc				
Excavate in earth for holes n/e 2m deep	m^3	11,75		
Cart Away				
Extra over for carting away excavated material from excavations	m^3	11,75		
Rip & Compact Surfaces				
Rip & Compact surface to a depth of 150mm thick	m^2	537,00		

CONCRETE, FORMWORK AND REINFORCEMENT				
20Mpa/19mm stone concrete in foundations cast against excavated surfaces	m^3	6,14		
35Mpa/19mm stone concrete in Gate Ramp cast on top of NGL with a 150x120mm high concrete upstand	m^3	5,62		
ROADWORK				
Standard precast concrete kerb Fig 5 to SABS 927-1969	m	12,00		
Testing				
Concrete cube testing	No.	6		
EXTERNAL WORKS				
Fencing				
1830mm High Galvanised Fence with ⌀ 64mmx2,5mm diamond mesh supported on three ⌀ 4mm galvanised strain wires	m	126,00		
Gate posts 100x100x10 angles braced with 60x60x6 angles with base plates 100x100x10mm	No.	8		
Galv Corner posts 100x100x10 angles braced with 60x60x6 angles	No.	8		
Intermidiate posts to be erected equally spaced at 4500mm CRS.Min	No.	16		
Galv stay L2500 x 60 x 60 x6mm Baseplate 100 x 100 x 10mm	No.	20		
Stone filling	m^3	2,88		
12mm Construction Joints spaced @ 4500mm CRS.Min	m	4,44		
Bolt & Nut Electro pld M12x40 GR8.8	each	30,00		
Straining Eye Bolt Galv M12x200mm	each	50,00		
Binding wire fully Galv 4.0mm - 500m	each	2,00		
Binding wire fully Galv 2.0mm - 2015	each	2,00		
Double Leaf Gate:				
Gates to be braced square cornered constructed of 40mm N.B galvanised pipe welded and covered with ⌀2,5mmx64mm diamond mesh hanging of gates and	No.	2		

removable panels				
460mm long of ⌀8mm long link chain with centre welded to 40mm NB Tube and fitted with ⌀50x⌀8mm ring each end for padlock	No	2		
Security Padlock with 2 sets of keys	No.	2		
Signage	sum	1		
Personnel Gate Type 'A':				
995mm x 1830mm high Personnel Gate Type 'A'	No	2		
460mm long of ⌀8mm long link chain with centre welded to 40mm NB Tube and fitted with ⌀50x⌀8mm ring each end for padlock	No	2		
Security Padlock with 2 sets of keys	No.	2		
Provisional Sums				
The design, construction, supply, installation, commisioning and handover details including all other professional services to be rendered by the Contractor	sum	1		
Perform the necessary surveys & geotechnical investigations to enable the reinstatement of an Eskom boundary fence	sum	1		

FREE ISSUED CABIN/PARKHOME CONVERTED TO GUARDHOUSE

Description	Unit	QTY	RATE	AMOUNT
ALTERATIONS				
Take down and remove partition walls including entrance doors to toilets etc	sum	1,00		
EARTHWORKS				
Site Clearance				
Clearing of vegetation & shrubs n/e 200mm on the dirt road for easy access of cars	m^2	2882,00		
Excavations, Filling etc				
Excavate in earth for trenches n/e 2m deep	m^3	21,96		
Cart Away				
Extra over for carting away excavated material from excavations	m^3	21,96		
Rip & Compact Surfaces				
Rip & Compact surface to a depth of 150mm thick	m^2	2882,00		

CONCRETE, FORMWORK AND REINFORCEMENT				
15Mpa/19mm stone concrete in foundations cast against excavated surfaces in blinding	m^3	0,90		
35Mpa/19mm stone concrete in foundations cast against excavated surfaces	m^3	6,30		
35Mpa/19mm stone concrete in walkways / apron slabs (1000mm wide with at least 20mm away from the Guardhouse	m^3	3,20		
Testing				
Concrete cube testing	No.	6		
MASONRY				
Onebrick wall in foundations	m^2	7,73		
Brick Reinforcement				
75mm wide brickforce manufactured from 2,8mm diameter wire, as per the NHBRC specification every 4th course	m	19,33		
EXTERNAL WORKS				
Terracing Rehabilitation				
Area to be shaped, rehabilitated and terraced in a manner that matches existing levels to avoid water ponding in and around all structures in the Raw Water Pumpstation, works includes all associated works such as the ripping, compacting and filling areas with the necessary filling material. Including ripping and compaction where necessary.	m^2	400		
PLUMBING AND DRAINAGE				
Kitchen Fixtures				
10litre Hydroboil complete with all the associated works	No.	1		
Sink with Tap complete	No	1		
Sink cabinet /cupboard complete	No	1		
Rainwater Goods				
Steel Downpipes complete	m	6		
Gutters with brackets and backing board complete	m	12		

Sanitary Fittings				
Handwash basin with tap complete including all associated works	No.	1		
Complete toilet set inclusive of traps, piping and all associated works	No.	2		
Conservancy Tank inclusive of all the associated works,piping complete	No.	1		
Portable Water Storage Tank				
Excavate in earth for trenches n/e 2m deep	m^3	2,88		
Extra over for carting away excavated material from excavations	m^3	2,88		
Backfilling to trenches	m^3	7,52		
35Mpa/19mm stone concrete in foundations cast against excavated surfaces	m^3	2,88		
Onebrick wall in foundations	m^2	4,80		
Portable water storage tank designed with an adequate covered and secure concrete support structure. Sufficiently protected and covered to ensure it remains operational during all weather conditions and secure from any animals, reptiles, birds or insects possibly accesing it.	No.	1		
Sufficiently sized water pump system with necessary piping and connection fixtures that supplies potable water at the appropriate pressure to the Guardhouse	No.	1		
MECHANICAL WORK				
HEATING, VENTILATION AND AIR CONDITIONING INSTALLATIONS, ETC				
HVAC - Supply & Install 12000 BTU split aircon unit inclusive of all accessories complete. The condensate drain pipes from the indoor and outdoor units of the aircons should be neatly installed with spacer saddles to the ground. If the drainage piping is connected to the sanitary drainage, the contractor should provide a U-trap and a funnel to avoid smell/odour blow-back to the aircon	No.	2		
Single emergency door exit with 1 hour fire rating opening in the direction of travel outwards	No.	1,00		
ELECTRICAL WORK				

The *Contractor* is to produce and install the correct size power cable to feed the main DBs of the security guard from the allocated power source (Note: Allocated power source details to be provided to *Contractor* by the Employer).	sum	1,00		
10w LED Flood Lights including all the associated works	No.	4,00		
The relevant certificates and test reports shall be provided by the *Contractor* to prove compliance to the relevant specifications. If the equipment supplied has been typed tested, type test certificates for that make will be acceptable and do not have to be re-tested.	sum	1,00		
Jack tripods support or similar for parkhome @ 1000mm c/c including base support for the tripod	No	18,00		
Provisional Sums				
Collect the Cabin/Parkhome from Portion 7 and safely transport it to the Raw Water Pumpstation Area.	sum	1		
Design fee	sum	1		
Make provision for a condition assessment of the Cabin/Parkhome including design and modification including dismantling where necessary.	sum	1		
A maintanance manual shall be compiled for the Employer acceptance and use for the lifespan of the water storage tank	sum	1		
A final set of drawings (including a General Layout) shall be produced by the contractor for the Guardhouse indicating all the necessat design details and notes	sum	1		
Make provision for a sufficient accesibility for maintanance to the Conservancy Tank, adequate design and construction protection measures for the conservancy tank including but not limited to optimum material and containment measures preventing spillage and containing odours	sum	1		
Perform the necessary surveys & geotechnical investigations to enable the placement of the parkhome/cabin	sum	1		
The *Contractor* shall construct, supply, install and commission a fire detection system for the guard house	sum	1		

The *Contractor* will be responsible to design, installation, and commissioning of the earth mat and lightning protection for the security guard building	sum	1		

PART C3: SCOPE OF WORK

C3.1: EMPLOYER'S WORKS INFORMATION

Contents

1. Description of the *works*

1.1 Executive overview

Medupi Power Station requires that the remaining scope outside of the main station be completed (along the Kuipersbuld road and at the Raw Water Pumpstation).The Medupi Generation (Gx) requirements linked to the remaining scope are outlined in the Record of Decision (ROD). This Scope of Work (SoW) document shall only cover certain aspects of the remaining scope indicated in the ROD for a potential *Contractor* to execute.

Therefore this SoW shall only deal with clarifying the *Contractors* works that are associated with the supply, design and construction of the necessary Raw water pumpstation guard house, the reinstatement of the Kuipersbuld road boundary fence and the supply and installation of protection measures (including but not limited to providing adequately sized lockable fences access gates, necessary terracing and clearing of vegetation in particular areas and the supply and installation of padlocks for the fence gates and padlocks on the chequered plate trap doors for specific Low Pressure Services (LPS) existing structures (already constructed valves, pits and other structures).

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

A. The purpose of this document is to describe all the design, construction and supply, commissioning and handover scope requirements for this project and all associated deliverables to be executed by the Contractor.

1.2.1 Applicability

A. This document only applies to Eskom Medupi Power Station Project.
B. Medupi Power Station is a coal fire power station and a National Key Point situated in the Limpopo Province near the town of Lephalale.

1.2.2 Codes and Standards

All Works shall also be conducted in terms of the relevant design and construction Eskom standards/procedures, relevant SANS specifications, SANS 10 400, Construction regulations, OHS Act, Water use licence, Environmental, Eskom Medupi Project Specific Safety Plan.

1.3 NORMATIVE/INFORMATIVE REFERENCES

Parties using this document apply the most recent edition of the documents listed in the following paragraphs.

1.3.1 Normative

[1] The Environmental Conservation Act (Act No 73 of 1989);

[2] Occupational Health and Safety Act, (Act No. 85 of 1993) with associated regulations

[3] ISO 9001 Quality Management Systems.

[4] Construction Regulations 2014

[5] ECSA Code of Conduct

[6] ECSA Overarching code of practice for the performance of engineering work

[7] SANS relevant and applicable

[8] SAICE Site Investigation Code of Practice, 2010

[9] Revised Guide to Soil Profiling for Civil Engineering purposes in Southern Africa" Trans. S.A.I.C.E, Vol. 15.

[10] 348-9974683 : Civil Spec – Low Pressure Services (84CIVL052)

[11] 84CIVL053 : Medupi Power Station Specification for Structural Concrete, Rev 3

[12] 200-6166 : Eskom backfill specification

[13] 240-56364545 : Structural Design and Engineering standard

[14] 240-52599753 : Workplace space and Furniture Standard for Commercial Properties

[15] 200-26680 : Medupi Power Station Architectural Technical Specification for Structures & Other Buildings

[16] 200-4056 : Power Station Architectural Technical Specifications for Structures and other Buildings

[17] 240-84418186 : Road Specification Manual

[18] 240-57127955 : Geotechnical and Foundation Engineering Standard

[19] 240-57127951 : Standard for the Execution of Site Investigations

[20] 240-57127953 : Execution of Site Preparation and Earthworks Standard

[21] 240-106628253 : Standard for Welding Requirements on Eskom Plant

[22] 240-53113685 : Design Review Procedure

[23] 240-531136850 : Eskom Design Review procedure

[24] 240-53114002 : Engineering Change Management Procedure

[25] 240-54937450 : Fire Protection & Life Safety Design Standard

[26] 240-54937454 : Inspection, testing and maintenance of fire protection systems standard

[27] 240-70164623 : Eskom HVAC Design Guideline (Rev 2)

[28] 240-56227516 : LV Switchgear Control Gear Assembly Associated Equipment for Voltage 1000V AC and 1500V Standard

[29] 240-56356396 : Earthing and Lightning Protection Standard

[30] 240-56227443 : Requirements for Control and Power Cables for Power Station Standard

[31] 240-55714363 ; Eskom Generation Power Stations Lighting and Small Power Installation Standard

[32] SANS 10142-1 : The wiring for premises Part 1: low-voltage installations.

[33] SANS 10114-1 : Interior lighting Part 1: Artificial lighting of interiors

[34] SANS 10114-2 : Interior lighting Part 2: Emergency lighting

[35] 200-207219 : Medupi Power Station Safety, Health and Environmental Specification

[36] SANS 10400 : All Parts National Building regulations

[37] SANS 121 : Hot dip galvanized coatings on fabricated iron and steel articles – specifications and test methods

[38] SANS 3001-C03-1 Part CO3-1: Concrete durability index testing — Preparation of test specimens

[39] SANS 3001-C03-2 Part CO3-2: Concrete durability index testing — Oxygen permeability test

[40] SANS 3001-C03-3 Part CO3-3: Concrete durability index testing — Chloride conductivity test

[41] SANS 10108 : The Classification of Hazardous Locations and Selection of Equipment for Use in Such Locations

[42] 240-60490979 : OHS Operational Plan

[43] 32-245 : Eskom Waste Management Standard

[44] 32-421 : Eskom Life Saving Rules

[45] 36-681 : Eskom Plant Safety Regulations

[46] 200-35208 : Environmental Management Plan

[47] 200-16817 : Excavation permit

[48] 200-1689 : Medupi Quality Specification,

[49] 200-45965 : Medupi Manufacturing Inspection and Testing Procedure.

[50] 200-129834 : Storage and Preservation Procedure,

[51] 200-46362 : Medupi Site Quality Assurance Control and Verification Procedure.

[52] 200-1679 : Project Quality Plan

[53] 240-86973501 : Engineering Drawing Standards

[54] 348-883860 : Medupi Format and Layout Specification

[55] 348–883808 : Medupi Document and Records Management Procedure

[56] 240-86973501 : Engineering Drawing Standard

[57] 36-943 : Engineering Drawing Office and Engineering Documentation Standard

[58] 240-53114186 : Eskom Project/Plant Specific Technical Document and Records Management Procedure

[59] 240-83561037 : Reporting and Data Requirements Specification for Contractors.

[60] 348-942820 : Transmittal Template

[61] 200-73971 : Medupi EMS Scope and Manual Rev 07 May

[62] 201932-846 : Operating Regulations for High Voltage Systems

[63] 240-55864764 : Chemistry Standard for Potable Water.

[64] 200-3340 :Standard: KKS Coding and Labelling

[65] 240-93576498 KKS Coding Standard

[66] 200-5343 Medupi Power Station Project-List of Abbreviations

[67] 200-94660 Issuing of KKS Certificate Work Instruction

1.3.2 Informative

[68] National Environmental Management Act, 1998 (Act 107 of 1998)

[69] National Environmental Management Waste Act, 2008 (Act 59 of 2008)

[70] National Water Act,1998 (Act 36 of 1998)

[71] Government Notice 704, National Water Act 1998

[72] 240-56227927 : Load Schedule

[73] 240-56176097 : Cable Schedules

[74] 240-77302094 : Terminations schedules

1.4 DEFINITION

1.4.1 Disclosure Classification

Controlled Disclosure: Controlled Disclosure to external parties (either enforced by law, or discretionary).

1.5 ABBREVIATIONS

Table 1: Abbreviations

Abbreviation	Description
CAD	Computer Aided Design
ECO	Environmental Control Officer
ECSA	Engineering Council of South Africa
EDWL	Engineering Design Work Lead
EMP	Environmental Management Plan
GPR	Ground Penetrating Radar
ITP	Inspection Test Plan
LDE	Lead Discipline Engineer
LPS	Low Pressure Services
MDL	Master Document List
NDT	Non-Destructive Testing
OHS	Occupation Health and Safety
PDF	Portable Document Format
PEC	Professional Engineering Certificate
PER	Pressure Equipment Regulations
QA	Quality Assurance
QC	Quality Control
QCP	Quality Control Plan
QVRs	Quality Verification Records
RIP	Reservoir Valve Inlet Station
SANS	South African National Standards

Abbreviation	Description
SoW	Scope of Work

1.6 ROLES AND RESPONSIBILITIES

The following roles and responsibilities apply:

Table 2: Roles and Responsibilities

Compiler	The document compiler is responsible for ensuring that this document is up-to-date and that this document is not a duplication of an existing documentation, regarding the document's objectives and content.
Functional Responsibility	The Functional Responsible Person shall determine if the document is fit for purpose, before the document is submitted for authorisation.
Authoriser	The document authoriser is a duly delegated person with the responsibility to review the document for alignment to business strategy, policy, objectives and requirements. He/she shall authorise the release and application of the document.
Lead Discipline Engineers	Provide input to the technical tender evaluation strategy and associated engineering activities.
Employer	Eskom Medupi Power Station, Eskom Project manager and/or authorised Eskom representative from the Medupi Project or Medupi Generation.

2. Management and start up.

2.1. Management meetings

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

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

The venue for these meetings is as determined by the *Project Manager*. The *Project Manager* writes the minutes of meetings and circulates to attendees within five working days.

Any action of the *Project Manager* and the *Contractor* implied in the minutes of meetings is confirmed by a separate formal communication between the *Project Manager* and the *Contractor*.

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

- *Contractor's* current activity progress and planned finish dates
- *Contractor's* planned start and finish dates for the works
- *Contractor* and *Project Manager*'s programme agenda current and projected manpower by class

- Health, Safety and Quality issues
- The progress of any Other relevant activities
- Discussion on any technical and commercial issues
- Problem areas or concerns

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

Table 1: Meetings Schedule

Title and purpose	**Approximate time & interval**	**Location**	**Attendance by:**
Risk register and compensation events	Weekly on Wednesday at Medupi *Employer* Offices	Venue determined by the *Project Manager*	Relevant appointed members of a Risk or and Compensation event committee that will include Contractors PM, Construction Manager, Engineering Manager, Quality Manager, Safety Manager, Environmental Manager
Overall contract progress and feedback	Monthly	Venue determined by the *Project Manager*	*Employer*, *Contractor*, *Supervisor*,
Overall contract progress and feedback during execution	Weekly	Venue determined By the *Project Manager*	*Employer, Contractor*, Supervisor as determined by the *Project Manager*
Planning Meetings	Weekly	Venue determined By the *Project Manager*	*Employer*, *Contractor*, Supervisor, Planner and Others as determined by the *Project Manager*
Integration meetings with Others	Weekly	Venue determined By the *Project Manager*	*Employer, Contractor*, *Supervisor,* Planners and Others as determined by the

			Project Manager
Safety Meetings	Monthly	Venue determined By the *Project Manager*	*Employer, Contractor, Supervisor* Safety Officers and Others as determined by the *Project Manager*

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.

Documentation control

2.2.1 Documentation control

The contractor is required to manage documentation in line with the requirements outlined below. Furthermore, the below information is also covered by document 348-10001963 Medupi Contractor Doc Man requirements which will also be shared with the contractor during kick off meeting and workshops to be arranged in future.

2.2.2 Document Submission

All submissions to the *Employer*, the language of all documentation is to be in English. Documentation submissions must be through either email or walk-in to documentation centre with CD and/or hard copies. In case submission of documentation is through email, take note of the following:

- Email submissions, one must direct them to the proxy email and copy all recipient(s) as per the distribution matrix, which will be provided by the project manager.
- Use emails strictly as a channel for submitting documentation.
- All information required and intended for use by the *Employer*, may not be part of the body of the email, one must document it.
- Email must not be used as a transmittal, one must use a transmittal template
- The email subject must always include the transmittal number, package number/contract number.

Large file transfer: Documentation submission with the file size that exceeds the outlook maximum size, contractor must submit via the *Employer's* large file transfer portal, CD/DVD, and/or hard drives to the Eskom

Project Documentation Centre. The contractor/vendor must notify the employer in advance via email, with the transmittal note attached, to confirm the date, time and method of submitting large files. Method option may be CD/DVD and/or hard drives, which is a walk in to Documentation centre or large file transfer portal.

All submissions, the receiver must acknowledge by sending back a signed transmittal to the sender within two working days upon receipt. Every submission must have the PDF version and the Native (Editable) version. The file name for both the PDF and the Native must be the same, and as minimum contain Documentation Number and revision. One must list all items intended for submission, on the transmittal.
If the pack contains 10 documentation, therefore the transmittal must contain 10 items on the list. The listing must include as minimum documentation number, title and revision. The example of 10 items, will equate to a pack of 10 PDF files and 10 Native files, because each PDF files must have a native file.

Identification

Documentation must have a unique documentation identifier for audit trail. The transmittal must also have the unique identifier. All other documentation properties must be on the document; to supplement the document number. Minimum properties that must be on the document is the package number, contract, revision number, KKS code, functional area (example Unit 1), document type, document status, compiler, reviewer(s), approver, and approval date.

The primary documentation identifier is the Eskom Documentation Management System Generated number, except for the drawings. The primary number for the drawing is the Eskom drawing number with a prefix of 0.84. The contractor\vendor must request in advance the drawings number(s) from the employer, to populate on the drawing before submission. The contractor/vendor must request pre-location of drawing numbers via the pre-allocation form (348-684677)

All letters exchanged between the Employer and contractor/vendor will contain a secondary numbering system which is sequential, to account for the audit trail. Example, Eskom compiled letters must use this format P00-ESK-MED-0001,

- P00 = package number
- ESK = Eskom
- MED = Medupi
- 0001 = sequential number.

Contractor/vendor format must be P00-XXX-MED-0001, which is as follows:

- P00 = Package number
- XXX = Contractor name abbreviation
- MED = Medupi
- 0001 = sequential number.

The employer will allocate the Eskom documentation number upon submission from the contractor/vendor, except for drawings and data books. The contractor/vendor must request Eskom documentation number via the pre-allocation form (348-684677), for both the drawings and data books. The secondary or alternative documentation number is the contractor/vendor Documentation identifier.

i. Revision control

One must use only numeric revision control, and not alpha or alphanumeric. One may not skip revisions, track internal changes via version control, but submission to the employer must maintain a sequential revision control, without skipping numbers. First submission must be revision 0.

Do not revise a record. A document must contain revision control. Design/drawing composed of multiple sheets (example sheet 1 to 10); one must revise all sheets as a batch, even if one only made changes to one sheet. The contractor/vendor must maintain revision control on the entire batch at all times, and submit the entire batch always.

ii. Drawing Management

Use the *Employer*'s Drawing template and ensure that all the fields on the title block are populated and all signatures completed. Maintain the revision audit trial on the title block. The last submission of the drawing must be the final as-built drawing, both in PDF and native. The creation, issuing and control of Engineering Drawings are in accordance *Employer's* Drawing Standard and Common requirements 240-86973501. The *Contractor* submits as minimum one hardcopy and an electronic copy to the *Employer*.
The *Contractor* submits editable electronic drawings in Micro Station (DGN) format, and scanned drawings in pdf format. Drawings issued to the *Employer* must not be "Right Protected" or encrypted as the *Employer* has to do the necessary configuration management on these documents upon receipt. Electronic drawings must have a watermark indicating the approval phase of a drawing and one must stamp the hardcopies to indicate the phase.

Any additional drawings requested by the *Employer* do not constitute a compensation event. All drawings types including but not limited to the following (General Arrangement, Isometrics, P&IDs, detail drawings), one must submit in the following formats:

- One (1) hard copy.
- One (1) electronic copy in .pdf format
- One (1) electronic copy in the native CAD format, preferably .dwg format

Drawings must be done according Eskom Drawing Standard and Common requirements 240-86973501.
Drawings are submitted in sufficient time to permit review, comment and/or modifications being made, if such are considered necessary by the *Project Manager*, without delaying the Contract Delivery and Completion Dates.

iii. Report

The *Contractor* shall submit the Vendor Documentation Submission Schedule for review to the *Employer,* within 30 days after the contract is award. After the Employer informs the contractor of the decision to accept or reject the schedule, the *Contractor* revises and submits the updated schedule within 48 hours. The VDSS is revisable and one must discuss any change to reach agreement between all parties, and then properly document the changes. Changes in the VDSS include additional documentation for submission; submission dates; documentation descriptions and document numbers; etc. The *Contractor* shall be responsible for the management of the schedule.

The Contractor must compile a documentation register, to track the documentation submission progress, in line with Contractor-committed dates on the VDSS. The register for tracking submission progress is the master documentation list (MDL); *Contractor* must submit it monthly to the *Employer*. The MDL must list all other submissions not specified on the VDSS, example letters.

iv. Retention of Documentation

The contractor must retain all documentation, specified on the VDSS. This includes data books. The contractor must keep the documentation for a minimum of 10 years post contract close out. This is in line with the Rules of Conduct for Registered Persons, Engineering Professional Act, paragraph 4(a): “Registered Persons, may not without satisfactory reasons destroy or dispose of, or knowingly allow any other person to destroy or dispose of, any information within a period of 10 years after completion of the work concerned”

The contractor must retain the documentation in electronic format. The contractor must also keep the original ink signed hard copies for the minimum of 10 years post contract close out.

When the 10 years end, the contractor must inform the employer in writing prior to disposal, to confirm if the employer is not in need of any documentation. The correspondence must include the master documentation register, which outlines all retained documentation. It is the contractor’s responsibility to ensure that the correspondence has reached the employer, by requesting acknowledgement of receipt. The employer has the maximum of 6 months to respond in writing to the contractor, failure to do so, the contractor may proceed and dispose the documentation after the six months has passed.

v. Governance

Contractor must comply with the following governance. 348-883860: Medupi Format and Layout Specification; 348-883808 Medupi Document and Records Management Work Instruction; 240-86973501 Engineering Drawing Standard; 348-885429 Engineering Change Management Work Instruction; 36-943 Engineering Drawings Office and Engineering Documentation Standard; 240-53114186 Eskom Project/Plant Specific Technical Document and Records Management Procedure, 240-83561037 Reporting and Data

Requirements Specification for Contractors, 348-942820 Transmittal Template, 200-616427 Data Book Checklist.

2.2.3 Configuration Management

The *Contractor to* prepare a Configuration Management (CM) plan utilizing ISO 10007 as a reference guide for the scope of work. The CM plan shall include the following:
The process of managing documentation for the project works will be supported by the following.

a) According to process functions: All plant shall be coded to KKS Breakdown Level 3.
b) According to points of installations: Electrical and Instrumentation devices installation units (e.g. cabinets, panels, consoles) shall be coded to KKS Breakdown Level 3.
c) Location codes: Plant structures shall be coded to KKS Breakdown Level 2.
d) Cables coding: Cables shall be coded with either source or destination equipment KKS code followed by sequential four-digit number and optional four alpha numeric characters.

The *Contractor* to codify all equipment, and any components which are required to be codified as per the guidelines and standards referenced in this document. The *Contractor* to indicate equipment and component codification in drawings and documents indicating or referencing such plant.

The *Contractor* to submit all KKS codes designated by the *Contractor* in an Equipment List format with equipment descriptions, with the documents in which they were originally designated, to the *Employer* for review. Any description abbreviations shall be done according to the List of Abbreviations (200-24473).
The *Contractor* will remain responsible for ensuring that the codes designated are unique, not duplicated and meet the requirements established by the various standards applicable to the project. Where any ambiguities or doubts with regards to KKS codification exist, the *Contractor* to engage the *Employer* for resolution.

2.2.4 Plant Labelling and KKS Classification

The KKS system is used by the *Contractor* for classification and designation of both plant and associated documents. The *Contractor* uses *Employer*-specific interpretations of the KKS standards, which will be reviewed and agreed upon after Contract Date.
The *Contractor* shall manufacture and install labels according to the Medupi Label specification, 2003340.
Any abbreviations to plant descriptions shall be prepared in accordance to the *Employer's* abbreviation standard, 200-24473.
Detailed name plate or label lists with the service legends and including the KKS Code shall be prepared by the *Contractor* and submitted to the *Employer* for review and comment before commencing the manufacture of the labels. On plant areas where labels do not make ergonomically sense please consult site configuration management for guidance.

2.2.5 Documentation to be supplied by the *Contractor*

The following documentations are to be supplied to the *Employer* by the *Contractor* as a minimum where applicable:

1. All Engineering clearance charts
2. Technical specifications for the spares, part numbers and the stock levels required
    A. Commissioning procedures
    B. Performance test procedures
    C. Installation reports
    D. Supply of end of manufacturing reports for all components
    E. Documentation for new/modified auxiliaries
    F. List with new components KKS numbering
    G. As-built drawings:
    H. Single Line Drawings
    I. Works Information
    J. Schematic Drawings
    K. Operating Philosophy
    L. Quality Control Plan
    M. Installation Procedure
    N. Maintenance Manual
    O. Operating Manual
    P. Technical Manual
    Q. Instruction Manuals and/or Catalogues
    R. List of Recommended Spares
    S. Test procedure, Certificates and/or Report
    T. Test Instruments Calibration Certificates
    U. Design Review Packages

At the end of the process design phase, the *Contractor* is expected to deliver the following updated documentation specific to the Works:

- Piping and Instrumentation diagrams (P&ID's)
- Valve lists
- Instrument schedule

- Control Narrative
- Operating philosophy
- Design calculations (i.e. NPSH, velocity, pressure drop/ 100m etc.)
- Hydraulic Model input file, results and report
- HAZOP study report
- FMECA study report
- Reliability, Availability and Maintainability (RAM) study Report
- Equipment data sheets
- Loading calculation

At the end of the Mechanical design phase, the *Contractor* is expected to deliver the following updated documentation specific to the Works:

- Plot plans and GA drawings showing the positions of all pipe supports, and details of the supports
- Isometric drawings for the pipeline, and piping accessories
- Mechanical design calculations and any model input file, and reports

On completion of the C&I design the *Contractor* shall submit the following documentation to the *Employer* for approval;

a. Instrument location diagram
b. Signal list
c. I/O Block diagram
d. Control Narrative or detailed functional description
e. Alarm list and rationalization
f. Functional block diagram (FBD)
g. Instrument data sheets

The *Contractor* is also required to submit, steel grade certificates, fabrication drawings, welder's certificates and quality and test plans for review prior to fabrication.

Once the construction work is completed, the *Contractor's* designer will issue the necessary certificates (inclusive of geotechnical and structural PE certificates) and as-built documentation (drawings, native files as well as structural and foundation design reports that includes all calculations).

2.3 Health and safety risk management

The Contractor shall comply with the health and safety requirements contained on the Occupational Health and Safety Act (OHSA Act 85 of 1993) and its regulations, Employer Policies and Procedures as well as contract requirements. It is essential that the Contractor is conversant with Eskom safety procedures training prior commencing any work on site. Failure to comply shall result in the Employer suspending execution of services and removing the Contractor from site until compliance is achieved. The Employer may cancel a

Task Order and/or terminate the contract depending on the situation and risks to people, plant and equipment, reputation, and the Employer's business of electricity supply.

The Contractor, shall at all times, considers itself to be the "Employer" for the purposes of the OHSA and shall not consider itself under the supervision or management of the Employer with regard to compliance with the SHEQ Requirements, the Contractor shall furthermore not consider itself to be a subordinate or under the supervision of the Employer in respect of these matters. The Contractor is at all times responsible for the supervision of its employees, agents, Sub Contractors, and mandataries and takes full responsibility and accountability for ensuring they are competent, aware of the SHEQ Requirements and execute the Works in accordance with the SHEQ Requirements.

Note: The OHSA and the Employer's Regulations are collectively referred to as the "SHEQ Requirements".

Should the Contractor appoint Subcontractors, Contractor shall carry responsibilities of a client as per Construction Regulation 2014.

The Contractor shall ensure that all statutory appointments and appointments required by the management system are in place, and that all appointees fully understand their responsibilities and are trained and competent to execute their duties. The Contractor supervises the execution of their duties by all such appointees.

The Contractor shall appoint a Safety Officer who will be responsible for the premises relevant to this contract and liaise with the Eskom Safety Department accordingly to ensure compliance to Health and Safety Requirements. As a minimum the appointed Safety Officer shall have a National Diploma in Safety Management or Environmental Health and be registered with SACPCMP.

The Employer, or any person appointed by the Employer, may at any stage during the period of this contract:

a) Conduct health and safety audits regarding all aspects of compliance with the SHEQ Requirements, at any off-site place of work, or the site establishment of the Contractor.
b) Refuse any employee, Sub Contractor, or agent of the Contractor access to the premises if such person has been found to commit an unsafe act or any unsafe working practice or is found not to be qualified or authorised in terms of the SHEQ Requirements.
c) Issue the Contractor with a stop order should the Employer become aware of any unsafe working procedure or condition or any non-compliance with any provision of the SHEQ Requirements.

The Client expects the Contractor to engage in safety culture initiatives in line with the Eskom SHEQ Policy and value, Zero Harm.

The Contractor shall implement their OHS management system and requirements and incorporate the applicable Eskom requirements into their system.

The Contractor shall ensure:

a) Compliance with all requirements of the Occupational Health and Safety Act no 85 of 1993 and its regulations so as to ensure the health and safety of persons carrying out the Works.

b) Compliance with Eskom's SHE policies, procedures, standards, guidelines, specifications and site regulations.

c) All employees are medically, physically, and psychologically fit to perform the Works. Employees shall have a valid medical certificate of fitness specific to the work to be performed.

d) All employees undergo the relevant training as per their function requirement.

e) All employees working at heights must be in possession of valid training certificates.

f) Employees are informed of hazards identified in the risk assessment before commencement of Works. The Method Statement shall also be communicated to the employees on the work activity before commencement of Works.

g) The emergency rescue plan shall also be communicated to personnel undertaking the Works.

h) Prevention of risk and threats as reasonably practical. All safety and health related incidents should be reported as soon as possible but before end of shift and managed as per Incident management procedure 32-95 (latest revision);

i) Sufficient health and safety information as well as resources are made available.

j) All employees undergo safety induction on-site prior commencement of work.

k) All power tools shall be inspected, and colour coded as and when required.

l) Prescribed PPE for the specified Works shall be worn at all times. The provision of PPE shall be the responsibility of the Contractor.

m) Correct site drawings are obtained and communicated to the employees undertaking the Works.

n) All legal appointments should be done in writing and have relevant competency where applicable.

o) All necessary precautions are taken to manage any health pandemic or disaster.

p) That letter of good standing shall be valid at all times.

Compliance with legislation and other requirements

It is required that all Contractors on the project comply with the relevant applicable legislation, specifications, and standards in accordance with the scope of the project.

It is the duty of the Contractor to ensure that they are familiar with the necessary OHS legislation required. Applicable Acts/regulations should be displayed or available for employees, client and inspector when required.

Note: When there is an amendment to the Acts and/or to the Regulations, the OHS plan must be reviewed, updated accordingly, and send through to the client. Changes must be communicated to all relevant employees.

Mandatory agreements

A section 37(2) agreement must be signed between the Client and the Contractor at the time of awarding the contract. A signed copy of this agreement is submitted to the Client prior to commencement of any activity on site. The Contractor must ensure that a section 37(2) agreement is signed between them and all their appointed Subcontractors/suppliers for the contract.
Copies of all agreements must form part of the Contractor's OHS file.

The Contractor confirms that it has been provided with sufficient written information regarding the health and safety as well as Environmental arrangements and procedures applicable to the works to ensure compliance by it and all employees, agents, Sub-contractors, or mandataries with the SHEQ Requirements while

providing the Works in terms of this contract. As such, the Contractor confirms that this contract and the relevant Employer's Regulations referred to in this contract constitute written arrangements and procedures between the Contractor and the Employer regarding health and safety for the purposes of section 37(2) of the OHSA.

The Contractor agrees that the Employer is relieved of any and all of its responsibilities and liabilities in terms of Section 37(1) of OHSA in respect of any acts or omissions of the Contractor, and the Contractor's employees, agents, or Sub-contractors, to the extent permitted by the OHSA.
The Contractor hereby indemnifies the Employer and holds the Employer harmless in respect of any and all loss, costs, claims, demands, liabilities, damage, penalties or expenses that may be made against the Employer and/or suffered or incurred by the Employer (as the case may be) as a result of, any failure of the Contractor, its employees, agents, Subcontractors and/or mandataries to comply with their obligations, and/or the failure of the Employer to procure the compliance by the Contractor, its employees, agents, Sub-contractors and/or mandataries with their responsibilities and/or obligations in terms of or arising from the OHSA.

COID and UIF requirements

The Contractor shall be registered with an appropriate employment compensation fund or a licensed compensation insurer and submit proof of good standing with the commissioner. The Contractor shall, before the commencement with work on site, furnish Eskom Medupi Power Station Project Management with proof of a valid registration through a certificate of good standing in terms of the Compensation for occupational Injuries and Diseases Act, (COID Act), 130 of 1993 and that all payments due to the Commissioner are discharged. This cover shall remain in force during the contract and shall be the responsibility of the Contractor to ensure validity. The letter of good standing shall reflect the name of the Contractor.

Occupational health and safety policy

The Contractor shall have a OHS/SHEQ Policy authorised by their Chief Executive (OHS Act Section 16(1) appointee) that clearly states overall SHE/Q objectives and commitment to improving Safety and Health of its employees. The policy should also include the description of the organisation scope and the arrangements for carrying out and reviewing such policy.

Eskom has a SHEQ Policy (32-727) that clearly states the policy principles by which Eskom operates and the commitment to SHEQ excellence and is authorised by the Chief Executive.

Contractors shall support Eskom SHEQ policy.

Cost Allocation for OHS Compliance

The Contractor shall ensure that there is provision for the cost of Occupational Health and Safety measures.

Note: the costing for OHS must be detailed, that is itemised based on the overall scope of the project (i.e., medical surveillance (Medicals), OHS Trainings, provision of PPE, first aid and emergency equipment, safety equipment purchases, resources, safety signages/symbols, occupational hygiene surveys… etc).

Annexure B: Eskom SHE Rules and Requirements

Annexure B is the acknowledgement of Eskom's SHE rules, and requirements form signed and submitted by the Contractor.

SHE organogram

The Contractor is required to compile their company organogram for the contract, highlighting the reporting structure from their Senior Management down to their project employees. The organogram must include relevant OHS legal appointment as well as appointments requirement by the OHS management system. This diagram must be kept up to date, a copy of which must be given to the client and copy filled in the relevant project SHE files.

SHE Induction and Access to Site

All the employees of the Contractor must attend an Eskom SHEQ induction course provided by the Client before commencement of the contracted work or before they will be allowed to work on the Site. It is the responsibility of the Contractor to ensure that all employees have attended the safety induction. Contractor shall further develop and train all its employees on company specific SHEQ induction. Proof of yearly induction should be easily identifiable/available at all times.

Only once this induction has been received, will each employee receive a site access permit.

Designer: Roles, Accountabilities and Responsibilities

A designer is the person responsible for the overall management of the project design as well as ensuring the management of the compliance of the completed works to the design during and after construction on site.

Designers should ensure compliance with the Occupational Health and Safety Act in terms of Construction Regulations of 2014, Regulations 6, and all other applicable regulations, standards, and legislations.

The designer shall consider the hazards associated with the future maintenance of the designed structure(s) and make provision in the design(s) for the necessary maintenance work to be performed such that the associated risks are minimised.

Designers should ensure that when they design for construction work, they consider foreseeable health and safety risks during construction and eventual maintenance and cleaning of the structure in the balance with other design considerations, such as aesthetics and cost.

Inform the Employer in writing of any known or anticipated dangers or hazards relating to the works and make available all relevant information required for the safe execution of the works upon being designed or when the design is subsequently altered.

The designer should apply the hierarchy of risk control. This means designers need to identify the hazards inherent in carrying out the works and where possible alter the design to avoid them. If the hazards cannot be removed by design changes, the designer should minimize the risks and provide information about the risks that remain.

Make available in a report to the Employer all relevant health and safety information about the design of the relevant structure, geotechnical science aspects where appropriate and the loading structure is designed to withstand.

Designer should describe any matters that require particular attention by a Contractor. Enough information should be provided to alert Contractors and Others to matters which they could not be reasonably expected to know about.

Take into consideration and ensure compliance of health and safety specification.

In cases where the Employer uses offshore designers, the appointed designers must indicate and submit to the Employer the legislative requirements/documentation with which they comply to verify whether they meet the South African SHE legislative requirements.
An offshore designer can appoint a local designer to conduct the inspections required by the construction regulations.

Designers must communicate changes with the Project Manager on designs that affect environmental authorisations/approval issued. Final designs and layout maps must be approved by relevant authorities before the commencement of the works.

Contractor: Roles, Accountabilities and Responsibilities

The Contractor carries primary accountability and responsibility for the health and safety of his/her employees within his/her working area, as contemplated by Section 37(2) of the OHS Act No. 85 of 1993 and Regulations. None of the additional safety requirements specified by the Client reduces the Contractor's accountability and responsibility for the health and safety of his employees within his working area.

The Contractor shall have a disciplinary process and an organisational structured procedure to deal with employees who have transgressed organisational and legal requirements.
The Contractor shall provide a list of names and contact telephone numbers of all his employees on site. This list shall be updated as and when new employees commence on site.
The Contractor shall keep a record of all employees, including date of induction, relevant skills and licenses, and be able to produce this list at the request of the relevant officials. These records shall be filed in the OHS File.

Employees are responsible for their own health, safety, and that of their co-workers in their respective areas of work on the project.
Employees must be made aware of their responsibilities during induction and awareness sessions some of which are:

- Familiarising themselves with their workplaces and health and safety procedures.
- Working in a manner that does not endanger them or cause harm to others.
- Keeping their work area tidy.
- Reporting all incidents/accidents and near misses.
- Protecting fellow workers from injury.
- Reporting unsafe acts and unsafe conditions.
- Reporting any situation that may become dangerous.
- Carrying out lawful orders and obeying health and safety rules.
- Declaring to the employer if taking medication, which may have intoxicating effects.

If an employee has a reasonable belief that the work to be undertaken is likely to endanger him/her or any other person/s due to sub-standard acts or conditions, inadequate precautions or a lack of protective equipment or clothing, he/she has the right to refuse to work and shall report such situation to the employer.

An employee does have the right not to work in any area or perform any task where that employee has reasonable justification to believe that the work situation presents a serious danger to his/her health and safety, organizational assets, or the environment.

It must be highlighted to all employees, that anyone who becomes aware of any person disregarding a health & safety notice, instruction or regulation shall immediately report this to the person concerned. If the person persists, stop the person from working and report the matter to the Eskom Site/Project Manager immediately.

The Contractor appointed personnel shall be registered in their respective levels as professionals in terms of the legislative requirements (SACPCMP).

OHS professionals (which include Safety Officers) are required to register as professionals with the SACPCMP.

Health and safety (SHE) file

The Contractor shall compile a SHE (health and safety) file as per Eskom Medupi Power Station Project's safety file requirements. The Contractor shall also ensure that the health and safety file; which shall include all documentation required in terms of the provisions of the Act and these Regulations; is opened and kept on site and made available to an inspector, client or client agent upon request.

The Contractor at the end of the project shall submit health and Safety file.

Health and safety management plan

A Contractor shall provide and demonstrate to the Client a suitable and sufficiently documented health and safety plan, based on the Client's health and safety specification contemplated in regulation 5(1)(b) provided by the client.

All Contractors must use the applicable OHS information to develop a suitable and sufficient OHS plan, submitted with tender documents, which will indicate to the Client the level of compliance to the OHS requirements. The occupational health and safety plan shall identify each activity to be undertaken by the Contractor, the foreseeable internal and external hazards, the specific precautions, and controls that shall be necessary to ensure that the works proceeds safely and without risks to health or adjacent operations.
Upon discussions with the Contractor, a final accepted OHS plan would be signed and approved.
The plan shall demonstrate management's commitment to OHS.

The safety plan shall be reviewed to ensure that it fully addresses all the issues and complies with the requirements of the OHS Specifications and contract. If necessary, the Contractor shall amend the OHS Plan as required by the Client.

Hazard identification and Risk assessment

It is a legal requirement in terms of Section 8 (2)(d) of the OHS Act for an employer to continuously carry out risk assessments, to establish which risks and hazards are attached to the health and safety of persons due to any work which is performed, any article or substance which is, handled, stored, transported.

The Contractor shall prepare and provide to the Client a Baseline Risk Assessment as well as activity based risk assessments for an intended work.

Medical programs

The Contractor shall ensure that the employees are registered on a medical surveillance programme and are in possession of a valid medical fitness certificate, completed in South Africa. The certificate of fitness should be relevant to the type of work (risk based) that the employee will be exposed to. This will require each employee to have a risk-based person job specification that will be used as a basis for medical examination.

The Contractor must ensure that his employees have undergone pre-entry medical examination before starting work on site, no employee will access site without a valid medical fitness certificate. Periodic medical examination shall be done for all employees as work progresses. Upon completion or as and when

employees' leave the project, an exit medical examination must be done for all employees involved in the project.

Emergency Care

The Contractor shall develop emergency procedure in line with Eskom Medupi Emergency Protocols. Contractor shall further ensure that Emergency response service is available at all times to attend to any emergency cases that may arise during the duration of the contract.

The Contractor shall be responsible to familiarise himself with local municipal disaster management portfolios.

A list of emergency numbers must be displayed at notice boards and public areas for ease of access to all employees and visitors. The Contractor shall ensure that his employees are familiar with the emergency numbers. Emergency numbers will also be part of the OHS induction.

Contractor shall have one first aid box for the first five (5) persons and thereafter one for every 50 or team of workers on site or part thereof. There should be a trained and appointed person to render first aid service when required. The first aider(s) shall be in possession of a first aid level two (2) training as minimum requirement as per Eskom Emergency planning procedure 32-123.

More first aid boxes shall be provided if the risks, distance between work teams or workplace requirements require it (it should be available and accessible for the treatment of injured persons at that workplace).

Minimum contents of a first aid box: (Refer to GSR 3 Annexure of the OHS Act).

A prominent notice or sign shall be erected in a conspicuous place at a workplace (SANS1186 approved signs to indicate location of first aid boxes), indicating where the first aid box or boxes are kept as well as the name and contact details of the First Aider of such first aid box or boxes.

The Contractor shall ensure that alternative arrangements shall be made for possible incidents occurring after normal working hours.

Eskom lifesaving rules

A Contractor shall comply with Eskom's Lifesaving rules. Violation of these rules will be viewed in a serious light and the consequences will be dealt with via the respective disciplinary processes
Five Life Saving rules have been developed that will apply to all Eskom Employees, agents, contractors, Consultants, suppliers and visitors. Failure to adhere to these rules will be considered a serious transgression. These rules are being implemented to prevent serious injury or death of any employee, labour broker or contractor working in any area within Eskom.

Eskom Life-saving Rules are non-negotiable health and safety rules which must not be broken under any circumstances. It must be highlighted that Eskom takes a ZERO TOLERANCE stance to violation of these rules. These rules are applicable to any person entering Eskom sites.

The rules are as follows:

Rule 1	**OPEN, ISOLATE, TEST, EARTH, BOND AND/OR INSULATE BEFORE TOUCH** Any person who performs work on an electrical installation shall ensure that it is isolated, tested and earthed before starting any work. (That is plant, any plant operating above 1000 V) With the aim to ensure a safe electrical work environment, no person may work/operate on, around or near any electrical network, line, or apparatus, electrically connected to the power system and/or electrically charged and/or not electrically charged unless: a) He/she is trained and authorised as competent for the task to be done. b) There is a valid permit to work, where required. c) A pre-task risk assessment to identify all risks and hazards has been conducted prior to any work commencing. d) He/she follows the requirements on OPEN, ISOLATE, TEST, EARTH, BOND and/or INSULATE BEFORE TOUCH, correctly based on applicable/related standards, procedures and outcome of risk assessment fit for the type of work or task to be performed. e) The authorised person (team leader) has certified and physically shown all team members that the apparatus is safe to work on. f) He/she makes the specific electrical environment safe prior to performing the work; and g) All the appropriate PPE (including face shield and insulated gloves for low voltage work) are worn.
Rule 2	**HOOK UP AT HEIGHTS** Working at height is a significant part of work in Eskom Holdings and is regarded as a high-risk activity, and as a result all precautions must be taken to prevent incidents while working at height. Wherever reasonably practicable, preference must be given to the performance of work at ground level as opposed to work in an elevated position. Where work in an elevated position is necessary, the requirements below shall apply. No person may work at height where there is a risk of falling unless: a) He/she is medically fit to work at height. b) A pre-task risk assessment to identify all risks and hazards has been conducted prior to commencing any work of this nature. c) He/she is appropriately trained as determined by the risk assessment. d) He/she is appropriately secured during ascending and descending; and e) He/she is using an Eskom approved fall arrest system where applicable.
Rule 3	**BUCKLE UP** Where required, the proper wearing of seat belts for any driver, operator and passenger is mandatory in all vehicles/equipment when driving and/or travelling for Eskom business purposes. The driver is obligated to ensure that he/she as well as all passengers are properly seated and wearing their seatbelts at all times while being transported in the vehicle, as per Eskom specifications. No person may drive any vehicle on Eskom business and/or on Eskom premises: Unless the driver and all passengers are wearing seat belts (Seatbelts shall be used at all times whilst driving). **Note:** This rule is applicable on any road or parking lot, irrespective of the speed, and when the vehicle moves in a forward or backward direction.

Rule 4	**BE SOBER** No person who is under the influence or who appears to be under the influence of intoxicating liquor or drugs will be permitted to enter or remain on an Eskom site or conduct Eskom business or drive/operate a vehicle/equipment for Eskom business purposes. This includes any level of alcohol or the presence of any drugs, controlled substances, and/or illegal substances in the body that impairs or could impair mental and physical functioning, irrespective of when the substance was used.
Rule 5	**PERMIT TO WORK** Where an authorisation limitation exists, no person shall work without the required Permit to Work (PTW), which is governed by for example the: a) Plant Safety Regulations; or b) Operating Regulations for High Voltage Systems (ORHVS); or c) Any other activity where a permit is required. No plant is to be returned to service without the cancellation of all permits on that plant in accordance with procedure, unless permission is granted for a particular plant to be returned to service with permits still open, like in the case of redundant systems. **Note:** In the case of live work, a "live work declaration form" is to be completed by the authorised person, who is the person responsible for the safe execution of work according to relevant standards and procedures. Outline the key principles or rules to support the implementation of the standard statement.

Personal Protective Equipment (PPE)

In terms of Section 8 of the OHS Act, the duty of the employer is to take steps to eliminate or mitigate (hierarchy of control measures) any hazard or potential hazard to the safety or health of employees before resorting to PPE.

Contractor's employees on site, including visitors, shall use SANS approved risk-based PPE at all times, as a minimum:

a) Head protection hard hat (with chin straps).
b) Steel toe capped safety boots.
c) Eye protection. Wearing of impact Safety Spectacles with side shields. Prescription glasses must comply with the same standard or cover impact safety spectacles must be worn over them.
d) Long sleeved and long pants protective clothing.
e) High visibility vests.
f) Dust mask and/or Cloth masks.

Refer to General Safety Regulation 2 of the OHS Act

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The Contractor shall ensure that his employees understand why the personal protective equipment is necessary and that they use them correctly. Training should be provided to employees on the use, care, replacement, and limitation of the provided PPE. Records of training to be kept and made available to the Client or inspector upon request.

Strict non-compliance measures must be administered to any employee not complying with the use of PPE and that employee shall be removed from the Site.

Note 1: Certain areas will be subjected to specific/extra PPE requirement.

Note 2: The provision of PPE shall be the responsibility of the Contractor.

Health Pandemics and Disaster Management

The Contractor shall ensure proper management and control of any disaster and or pandemics that may come forth during the course of the contract. Contractor shall submit a documented plan or procedure outlining how the organisation will manage any health-related pandemic or disaster on site. The plan must address the workplace protective measures.

Behavioural Based Safety Observation (BBSO)

Contractor shall incorporate BBSO or VFL programmes within their Health and Safety Management System.

The objective of behavioural safety observations is to assess and address the actual safe and unsafe behaviours of people in the workplace; as well as workplace conditions - which are caused by the actions or non-actions of employees, Contractor, or their personnel.

Employees' Right of refusal to work in an unsafe situation

Employees have a duty to take reasonable care of their own as well as other person's health and safety at work and to cooperate with the employer, carry out lawful orders, including reporting unsafe situations and incidents.

Refer to Eskom Procedure 240-43848327- Employees' right of refusal to work in an unsafe situation. The aim of the procedure is to ensure that an environment is created that promotes zero harm by empowering employees and Contractors to take responsibility for their own safety and that of others.

OHS Audits

During the course of this contract, the Contractor shall be subjected to scheduled or monthly audits by the client to monitor compliance.

Eskom reserves the right to monitor and conduct unannounced audits to ensure compliance and provide assurance to the Client representatives and their key stakeholders.

Incident management

The Contractor shall report and investigate all incidents/accidents as required in terms of the legislation.

All incidents reporting, recording, classification, and investigation will be done according to the requirements set out in the Eskom document 32-95 (latest revision).

OHS Performance Status Reports

The Contractor shall provide OHS statistical and non-statistical reports, dashboards, presentations on weekly and monthly basis.

Meetings

The Contractor shall attend the monthly safety meeting scheduled by the Client. Ad-hoc meetings shall be scheduled to address any Health and Safety related issue.

Work Co-ordination/interface Process

Work coordination process is designed for monitoring and coordination of activities for contractors working within the same area. It allows work to proceed without risk to the health and safety of contractor personnel, visitors, Principal Contractors and client personnel.

The following shall be taken into consideration:

a) Whenever there is more than one contractor working in one area, there shall be a documented interface process.
b) Where there are agreements between different contractors, those agreements shall be written and signed off by the client and site/plant owner.
c) It is crucial that there is link between the risk assessment required for the permit to work in terms of PSR and the task risk assessment, as these risk assessments identifies critical controls required to execute the work.

Housekeeping

The Contractor shall maintain a high standard of housekeeping within the site. Prompt disposal of waste materials, scrap and rubbish is essential.

The Client requires the Contractor to conduct housekeeping on a daily basis and perform housekeeping inspections (at least weekly) to ensure maintenance of satisfactory standards. The Contractor shall document the results of each inspection and shall maintain records for viewing.
Housekeeping must be done before and after every shift. After completion of every task, the Contractor must conduct a proper housekeeping and keep evidence of housekeeping in that area.

Note: Nails protruding through timber shall be bent over or removed so as not to cause injury.
In cases where an inadequate standard of housekeeping has developed, compromising the health, safety and cleanliness, all employees have the responsibility to bring it to the attention of the Client.

The Client will have the authority to instruct the suspension of relevant works until the area has been tidied up and made safe. Neither additional cost nor extension of time to the Contract shall be allowed as a result of work stoppage. Emphasis on housekeeping and general safeguarding on construction site CR 27 and stacking and storage on construction site CR 28 is mandatory and must be complied with at all times

Inspection Colour Codes

The below table should be used for colour coding on site for monthly and quarterly inspections on tools and equipment. Material to be used on colour coding should be cable ties. The colour coding should be implemented as soon as on the first day of the respective month. Previous month colour coding should be removed and replaced with new ones for the present month.

Wrong colour coding on tools and equipment shall be deemed as proof that inspection was not conducted for the month on that particular item. Colour coding does not replace the need of daily inspection checklist being conducted daily and kept in the file on site.

Monthly Inspection Colour lode			**Quarterly Inspection Colour Code**	
January	Blue	Blue	January	Green
February		White	February	
March		Black	March	
April	Grey	Grey	April	Red
May		White	May	
June		Black	June	
July	Pink	Pink	July	Blue

August		White	August	
September		Black	September	
October	Brown	Brown	October	Yellow
November		White	November	
December		Black	December	

Work Stoppage

The temporary stoppage of an activity/activities or task(s) may be due to SHE concerns, including the following circumstances which shall not warrant any financial compensation:

- Ad hoc safety intervention by Eskom management: All work of a similar nature may be stopped as the result of an occurrence of a serious incident. The Contractor shall be required to comply with, and/or verify, the conditions stipulated in the work stoppage instruction pack and.
- Ad hoc safety intervention by any person, especially SHE functionaries, may be due to unsafe work or unsafe behaviour by the Contractor. The conditions that gave rise to the work stoppage will determine the corrective measures to be taken urgently to protect the health and safety of employees and protect the environment and plant or equipment, etc.

NOTE: Work stoppages that are initiated due to SHE related incidents shall not warrant any financial compensation claim lodged against Eskom.

Further note Eskom do have two compulsory work stoppages per annum. Safety discussions will be held on those days and no financial compensation claim lodged against Eskom. This is in line to support our safety culture of Zero Harm.

Hours of Work

All work conducted on site shall fall within the legal requirements in accordance with the Basic Conditions of Employment Act.

The Contractor will notify their Eskom responsible manager/supervisor of any work that needs to be performed after hours according to the agreed arrangements. (The application needs to be submitted timeously). Where applicable, the notification should include proof of application, for overtime, to the Department of Employment and Labour and/or the letter of approval from the Department of Employment and Labour.

OHS Post-Contract Review

At the end of the contract, an evaluation will be conducted and will be supported by the objective evidence documented during the term of the contract. The evaluation criteria will include, but not limited to: Accident and injury data for the contract; OHS non-conformances; Legal compliance with OHS requirements; Close-out of Incident Investigations; contravention of the Eskom Lifesaving rules; Prohibition and contravention notices issued by Department of Employment and Labour, Dept. of Mineral Resources, Department of Environmental affairs etc. The evaluation report shall be filed in the contract documents.

Project Close-out

On completion of the project or service rendered, the Contractor shall close out their project documentation and OHS files and handover to the Eskom Project Manager. All required documentation shall be submitted and handed overusing relevant medium as per the procedure (Project Closeout and H&S documentation, 348-9942695). A checklist shall accompany the submission to verify that all documents are submitted/or handed in to the client.

2.4 Environmental constraints and management

The *Contractor* shall comply with the environmental criteria and constraints stated in Annexure _____

Refers to 348-994812 Health Safety and environmental specification

- Contractors shall comply with the Projects' Environmental Management Plan (EMP), Environmental Authorisations, Licences, permits and other related requirements.
- Minimum requirements for compliance by contractors:
- Ensure that the Method Statements are submitted to the ECO for approval before any work is undertaken. Any lack of adherence to this will be considered as non-compliance to the specifications.
- Ensure that any instructions issued by the Engineer, on the advice of the ECO, are adhered to.
- Contractor must maintain the environmental legal register.
- Ensure that there must be communication tabled in the form of a report at each site meeting, which will document all incidents that have occurred during the period before the site meeting.
- Ensure that a register is kept at the site office, which lists all the transgressions issued by the ECO.
- Ensure that a register of all public complaints is maintained.
- Ensure that all employees, including those of sub-contractors receive training before the commencement of construction in order that they can constructively contribute towards the successful implementation of the environmental requirements of the Contract.
- Ensure compliance with the environmental requirements, relating to the provision of adequate resources for the implementation and monitoring of the requisite environmental controls.
- Compile an Environmental monitoring plan outlining all the construction activities, associated environmental impacts and how they will be mitigated;
- Ensure that the project pricing makes provision for environmental costs.
- Contractor shall attach a company waste management plan including the typical waste inventory and templates used for keeping waste records.
- Include environmental considerations as an item on the agenda of the monthly site meetings.
- Compile and implement the necessary Method Statements; and Undertake environmental awareness training of all site staff during the commencement of each Contract, with regular refreshers for the duration of the Contract.
- Appropriate measures shall be undertaken to minimise the generation of dust from work activities
- The work area is kept clean, tidy and free of waster/rubbish. Waste shall be disposed of in designated bins
- Adherence to Water Use License (WUL 27086983) and Regulation 704 of the National Water Act (Act 36 of 1998).
- Plant and machinery shall be equipped with drip trays. Oil refills for plant and machinery shall take place in designated areas.
- Ensure that the environmental authorizations required in terms of National Environmental Management Act, 1998 (section 24) are sought prior to storage of dangerous goods, including petrol, diesel, liquid petroleum gas or paraffin, in containers with a combined capacity of:
- More than 30m3 (30 000L) but less than 1000m3 (1ML) at any one location or site, GNR 386 (7)
- More than 1000m3 (1 000 000 L or 1ML) at any one location or site, including the storage of one or more dangerous goods in a tank farm, GNR 387 {1(c)}.

2.4.1 Spillage of Hazardous Chemical Substances

- Any spillages that occur shall be treated in accordance with the requirements indicated on the MSDS.
- Identify appropriate storage areas for stockpiling of materials, storage of hydrocarbons and storage of hazardous substances and ensure that these areas are appropriately prepared for their purpose.
- Disposal of hazardous substances shall be done in terms of the relevant legal requirements.
- Limit spillage of hazardous substances or substances with the potential to cause contamination of the environment.
- Develop emergency protocols for dealing with spillages particularly where these pose a pollution risk or involve hazardous substances.
- Compile and implement the necessary Method Statements; and undertake environmental awareness training of all staff.

2.4.2 Herbicide usage

Only registered pest control operators may apply herbicides on a commercial basis. All staff applying herbicides shall be trained in the application thereof and shall be provided with suitable PPE.

The application of herbicides shall be in accordance with the Fertilizers, Farm Feeds, Agricultural Remedies and Stock Remedies Act No. 36 of 1947. Only approved and tested herbicides with a low environmental risk shall be used.

An herbicide register for usage shall be compiled and maintained, and a copy handed to the project leader / environmental advisor on completion of the project / contract.

2.4.3 Fire hazard

The Contractor shall develop emergency protocols for dealing with fires, which may include a Fire Management Plan in accordance with the National Veld and Forest Fire Act (No 101 of 1998) and ensure that all staff is educated in fire prevention and will be held responsible to avoid the risk of fire. Firebreaks shall be created to prevent fires from spreading. No open fires are allowed on site. The contractor shall ensure that operations are in compliance with statutory requirements at all times. The Contractor Environmental Officer shall ensure that in areas with a high fire danger rating, staff are made aware thereof. Smoking shall be restricted to designated areas or shall not be allowed, particularly in areas that have a high fire danger rating.

Contractor shall ensure that adequate Fire Fighting equipment is available on site, particularly near hot work.

2.4.4 Waste

All waste generated shall be disposed of at a registered landfill site. A register of both hazardous and general waste shall be kept. The principal contractor must be able to remove all the hazardous waste generated operations. A waste management plan shall be compiled before commencement of work. Records of waste disposal shall be kept and updated all the time. No waste, be it biodegradable or not, shall be left on site once work has ended.

Domestic and hazardous waste generated shall not be burned, buried, or disposed of on Eskom or Landowner property, but will be controlled and removed to a registered waste site on a regular basis (Daily /

Weekly). The Principal Contractor and contractor working on site shall ensure that oil, fuel, and chemicals are confined to specific and secure areas throughout the construction period. These materials shall be stored in a bunted area with adequate containment for potential spills and leaks.

Waste may be collected by the relevant Municipality or alternatively taken by the Contractor to a registered landfill site. Where the Municipality does not have a weighbridge, the Contractor is responsible for obtaining a formal notification to this effect.

Contractors shall ensure that sufficient waste bins / containers, with lids are made available for waste control.

The contractor shall comply with the requirements of NEM: Waste Act 59 of 2008.

Quantities of disposed waste shall be recorded and reported on a monthly basis. Set up system for regular waste removal to an approved facility and minimize waste by sorting wastes into recyclable and non-recyclable wastes;

Equipment maintenance and storage:

- Ensure that all plant is in good working order;
- Undertake maintenance within specified area (workshop); and use drip trays for all stationary or parked plant and when servicing equipment away from designated areas.

2.4.5 Material requirement

The use of any material or property belonging to any landowner shall not be permitted prior to arrangements with the relevant landowner. Written proof of such agreement shall be handed to project leader / co-coordinator for record keeping.

2.4.6 Dust and Noise

The Contractor shall monitor dust and noise caused by mobile equipment, generators and other equipment during construction. Factors such as wind can often affect the intensity to which these impacts are experienced.

To ensure that noise does not constitute a disturbance during construction activities, all construction works shall occur between specific working hours. This shall be stipulated in the contract.

Mitigation measures to be implemented as required / agreed upon with the project leader / environmental advisor.

Dust suppression measures shall be in place to reduce the dust caused by the movement of heavy vehicles and other contractor activities.

2.4.7 Environmental Incidents

All environmental incidents such as pollution (air, water, land, noise, etc.), bird kills, and animals killed, plants destroyed, public complaints etc. shall be reported to project leader and / or environmental advisor within 24 hours of its occurrence.

All environmental incidents occurring on site shall be recorded according to Eskom Environmental Incident Management Procedure 240-133087117, detailing how each incident was dealt with. Proof thereof must be kept in an incident register.

The Contractor shall be held liable for any infringement of any Environmental statutory requirements.
All environmental incidents are reported as guided by 32-95.

2.4.8 Water

Always implement the current project Water Use Licence
No construction shall be allowed within the 1:100 year flood lines. Should any pollution of the watercourse occur, the Department of Water Affairs and Forestry must be notified immediately.
Water usage on site shall be verified with the substations/power stations responsible person, the project leader / environmental advisor to ensure compliance with legislation. Borehole water shall be verified as suitable for human consumption. All incidents related to water contamination shall be reported within 24 hours. Records of water quantities abstracted should be kept.
Chemical toilets shall not be within close proximity of the drainage lines / ways.

2.4.9 REPORTING AND SHE GOVERNAN

2.4.9.1 Weekly Inspection

Principal contractor conduct week inspection and keep report.
Weekly reports must form part of the monthly reports.

2.4.9.2 Monthly Reporting

Environmental Management reports to be submitted as per timelines determined and agreed upon by project Environmental department.
Eskom project team shall define and provide a reporting template.

2.4.9.3 Emergency Coordinators Meeting

The Project Emergency coordinators meet on an agree basis to discuss emergency activities, changes on the acts and bylaws and any other feedback from activities conducted by the Employer on various Contractors as well as lessons learnt.

2.4.9.4 Contractors Environmental Meetings

Contractors Environmental Meetings are held at intervals as determined by project Environmental Department, such meetings are chaired by the project Environmental Manager and attended by the ECO, project Environmental Practitioners as well as designated environmental resources of all contractors.
Attendance registers shall be kept for all the health and safety meetings.

2.4.9.5 Environmental file

Environmental file including the following but not limited to must be approved by the client. Ensure the files is updated regularly.

Comprehensive aspect and Impact register specific to the scope of works.

SHE policy recently signed.

Environmental management plan/that address all the potential environmental risks as per aspect and impact register. This include: Waste Management plan, Hazardous chemical substances management plan, Water management plan etc.

Method statements that include environmental impact and mitigations measures. Include all activities in sequence as per the project scope and aspect and impact register

Incident Management Procedure

Non-Conformance Procedure

Internal Auditing Procedure.

Appointment letter and the CV of the qualified Environmental officer with environmental experience minimum 2 years (with rehabilitation experience)

2.4.9.6 Environmental legislations and other requirements

Ensure compliance to all relevant environmental legislations and other requirements
Ensure compliance to the project available licences, authorisations and permits.
Ensure that the legal register is maintained.

2.4.10 SHE Managers Monthly meeting

The Project Site Management will host on a monthly basis a SHE Managers meeting in which all *Contractors* are invited to attend. The meeting discusses SHE performance, progress and improvement initiatives etc.

2.4.11 Documentation

The *Contractor* is responsible to have the following documentation available on site in accordance to the requirements of the Contract:
A copy of the OHS Act.

a. Copies of all site accident report forms as required by the OHS Act;
b. Copies of minutes of health and safety meetings held on site;
c. Copies of inspection reports produced by the accident prevention officer;
d. Copies of all relevant SHEQ procedures and associated documents and;
e. Copies of all inspections, testing and calibration certificates for machines and equipment used.

The *Contractor* to comply with all Health and Safety requirements

2.5 Quality assurance requirements

The Supplier shall demonstrate, provide and maintain a Quality Management System (QMS) that is ISO 9001:2015 certified or compliant thereto as well as the contractor quality requirements (240-105658000) and Medupi Contractor Quality Specification (348-389557) . Compliance with the provisions of this clause in no

way relieves the Supplier of the final responsibility to furnish acceptable services. *Contractors* QMS that includes:

a) Ensuring that processes, plans and procedures needed for the QMS are established and maintained and the integrity of the QMS is maintained when changes are implemented.
b) Ensuring that Quality Assurance and Quality Control Depts. are sufficiently manned with competent resources to effectively implement quality requirements.
c) Reporting to top management on the performance of the quality management system and any need for improvement.
d) Ensuring the awareness of customer requirements throughout Contractors organization.

Quality management shall ensure that the *Employer's* requirements as specified in the Contract are met in full, and verified as such to Employer satisfaction. Quality management shall be in accordance with ISO 9001:2015 and related ISO 9000 series of Standards, and is to provide full documentary and Objective evidence that the Works have been designed, manufactured, executed, completed, and maintained in accordance with the Contract.
The quality management system shall apply to the *Contractor* and all persons real or juristic working for or on behalf of the Contractor on or in connection with the Works and regardless of the form of employment contract.
Quality management shall ensure that the Quality Control Plans, Inspection and Test Plans and procedures/instructions/method statements/ECNs/FCNs developed or adopted provide stages at which the *Employer* may witness what is being done or require what is being done to be subject to inspection before the execution continues

Contractor shall list all documentation needed for the effective implementation of the project quality management system (QMS) and shall, as a minimum, prepare, maintain and implement throughout the life cycle of the project, as part of the project quality management system. The project specific documentation are as follows:

a) Project Quality Policy
b) Project Quality Strategy
c) Project Quality Objectives
d) Project Quality Management Plan
e) Project Organisation Chart.
f) Project RACI Matrix – may be split by Dept. /Phase/Discipline as required.
g) Job Descriptions including performance requirements and measurements.
h) Equipment and Process Criticality Ratings,
i) Project Quality Assurance Plans – per project phase:
    (i) Design
    (ii) Manufacturing, Inspection and Testing
    (iii) Construction, Inspection and Testing
    (iv) Commissioning and Taking-Over

(j) Project Quality Control Procedures - per discipline:
  (i) Civil and Structural works.
  (ii) Mechanical, Piping, Painting and Insulation works.
  (iii) Electrical works.
  (iv) Control and Instrumentation works.

Project Quality Control Procedures per individual activity identifying specific inspection and test methods and acceptance criteria.
Project Inspection and Test Plans (ITP's) per individual activity that plan, assure quality, and define inspection intervention levels.
Project Quality Verification Records per individual activity - as referenced in ITP's.
Manufacturing, Construction and Commissioning Record Books
Except where otherwise stated, all documents that constitute the Quality Management System, including proforma Quality Verification Records, shall be complete, in accordance with the Contract, and ready for use and submitted to Engineer not less than 30 days before the work governed by the documents is planned to start.

Throughout the lifecycle of the project, on a monthly bases, the contractor shall maintain and submit a MDL (Master Documentation List), to the *Project Manager* for review and approval. Each document on the Master Document List shall have the following marked against it:

a) The planned and actual date of submittal to the *Project Manager*
b) The classification of documentation (for approval, for review, or for reference) based upon the classification guidelines of Quality specification document.
  (i) Class 1 - for the Engineer's approval - where the Contractor may not proceed with the Works that are the subject of the document until it has been approved by the Engineer.
  (ii) Class 2 - for the *Project Manager*'s Review - where the Contractor may proceed with the works that are the subject of the documentation if the *Project Manager*'s has made no comment after seven (7) days from the receipt by the *Project Manager*
  (iii) Class 3 - for the Engineer's Reference - where the *Project Manager* reserves the right to comment, but the *Contractor* may proceed with the works that are the subject of the documentation.

Where there is an ambiguity or where a document is produced that is not referenced therein clarification as to classification shall be sought from the *Project Manager*.
The Master Document List shall be submitted to the *Project Manager* electronically via email in native file format monthly.

The *Contractor* submits as a minimum the following documents, as required by the *Employer*, which requirement does not constitute a compensation event, during the execution of the Works:-

a) Updated QCP register
b) Inspection notifications accompanied by their inspection report
c) Non-conformance and Defects registers and reports

d) Updated Site and off site inspection schedules.

e) Inspection and or FAT dates.

f) Inspections completed/outstanding.

g) Inspection and test reports

h) Monthly contract quality progress report

Data books for the completed Works, before commissioning can commence (refer to the Record books section 2.5.2 and data books hand over time lines)

- The Supplier agrees to control and professionally preserve and store appropriate documents, records and recordings for a period of 5 years after termination of the agreement to guarantee the traceability of the services rendered and inspection thereof.
- The Supplier agrees to regularly update and implement all the latest technology available as well as the necessary improvements for the installation, production and organisation deemed necessary to meet the requirements of the agreement and to enhance capabilities and effectiveness to deliver high quality, cost-effective security services.
- The delivered or services shall be uniform in Quality and condition, consistent with good industry practices and adhere to requested Eskom requirements, without deviation.
- The Employer shall have the right to regularly conduct inspections, assessments, audits and surveys and perform surveillance of the Supplier's and/or Sub-Supplier facilities, sites, premises, records and documentation (including but not limited to data books) to evaluate their capability to comply with the requirements necessary to conform to contractual and QMS requirements.
- The Employer reserves the right to inspect, at reasonable times, any or all of the services performed at the Supplier's or Sub-Supplier's premises or elsewhere. Verification by Eskom shall not absolve the Supplier of the responsibility to provide acceptable product and / or services, nor shall it preclude subsequent rejection by Eskom.
- The services must comply with the agreed specifications and requirements and the applicable directives and standards set out in the Contract. Defects notified by the Employer shall be remedied by the Supplier upon demand by the Employer without undue delay and at no extra cost. The Supplier shall continuously monitor and identify non-conformances, both internal and external, as signals of opportunities for improvement making process and other relevant changes to prevent recurrence.
- The Supplier shall further identify potential problems before they occur by identifying deviations in patterns or trends in product, service or process performance.
- Nothing contained in the Contract and/or purchase order and/or scope of work and /or works information shall relieve in any way the Supplier from the obligation of Quality control thereof.
- The Supplier guarantees that the Quality of the delivered services will comply with the requirements of the contract and/or relevant specifications.
- The Supplier shall, on request, prove its ability to relate to the proposed scope of work which establishes the manner in which the Supplier intends to perform the Contract.
- The Supplier shall, on request, prove its organisational, logistics and support resources to ensure the requirements of the contract can and will be achieved.
- The Employer reserves the right to assess and measure, during the existence of the agreement the qualifications, capability and competence of the key staff (assigned personnel) in relation to the scope of work and to interview any / all of them to confirm the Quality evaluation.
- The identified professional personnel who will be managing the service will be available and accessible on a continuous basis until the conclusion of the project.
- The Supplier shall demonstrate experience in comparable projects or specific aspects of the project and / or performance in similar projects, on request.
- The Quality of the services and the contents thereof will always be in accordance with professional standards.

- For the duration of the Contract, the professional staff managing the service, must be and remain a member of his/her Professional Society
- The Supplier must, at all relevant times, scrutinise and be aware of Eskom's requirements with specific focus on , inter alia, its philosophy, principles, strategies, practises, mission, vision, models, policies and practises.
- The Supplier shall exercise reasonable professional skill, care and diligence in the performance of his obligations in terms of this agreement.
- On awarding of the Contract to the successful Supplier, such Supplier shall present to the Employer an acceptable Quality Control Plan (QCP). The QCP shall comply with the requirements of ISO 10005

The Contractor shall employ sufficient qualified and knowledgeable quality assurance and quality control and inspection staff. These staff members shall be independent from those responsible for construction and commissioning activities and report directly to the Site Quality Department Manager and not the production team as referenced on Medupi Quality Specification (348-389557 sub-clause 3.4.1).

Quality Payment Schedule

1) The *Contractor* shall ensure that Quality Assurance is performed at all levels and phases of work carried out for the *Employer*.
2) The *Contractor* shall use processes to ensure that quality is built into their products/services i.e. its business processes are organized such that quality is built into the process of producing goods and rendering services. The *Contractor* shall work according to processes.
3) The *Contractor* shall ensure that it can be relied on to deliver quality goods and services without the need for the *Employer* to have to inspect all the time.

The *Contractor* shall keep the Quality Table of Payments (Quality Payment Schedule) updated with progressive *Employer* sign-off (as the work is done and payments applications are submitted). This means that as the *Contractor* completes an activity and has the related ITP/QCP signed by the *Employer*, the *Contractor* shall bring the Quality Table of Payments to the *Employer's* Quality representative to sign off for that activity.

The updated Quality Table of Payments shall accompany all payment applications (proforma invoices). The

Contractor shall attach the signed (or partially signed if applicable) ITPs/QCPs to the payment application.

Payment will only be made if the ITPs/QCPs are signed by the *Employer*.

2.6 Programming constraints

The *Employer* provides the Key Dates as set out in clause 11.2.9 of the Contract Data of the *Employer*, the access dates in clause 30.1 of the Contract Data by the *Employer*; the interface points identified by the *Contractor* in the *Contractor's* Works Information and requirements set out in the Works Information.

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

- The Key Dates
- The access dates from clause 30.1 of the Contract Data by the *Employer*;
- The detail on how the *Contractor* intends to achieve the Key Dates and the access dates;
- Interface with Others;
- Interface with the *Employer;*
- The date of Site establishment;
- Show all the critical paths;
- The *Contractor* must ensure that his programme contains sufficient float in order for the *Contractor* to add interface and alignment with the *Employer's* requirements and,

- Other factors, information, methodologies, detail and dates which the *Contractor* believes are necessary for achievement of the interface with Others; Key Dates, Completion Dates and access dates.

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

- All information required as [stated above];
- the services and work (programs) of all his Subcontractors and suppliers;
- the design schedule where applicable;
- the construction schedule;
- the planning schedule;
- the construction and manufacturing schedule;

The *Contractor* submits an updated programme every 2 weeks during execution. The updated programme is not a revised programme submitted in terms of clause 32 of the Contract. Notwithstanding anything to the contrary in the contract, Works Information or expressed at any meeting or in any minute of a meeting, the Accepted Programme is not altered by the *Employer*'s involvement in discussing the updated programme. All references to the requirements for a revised programme will be inferred as references to the requirements for an updated programme.

The *Contractor* must ensure that the Key Dates and interfaces with the *Employer* and *Other*s are incorporated into the Accepted Programme. To improve integration and interfaces with others and the *Employer*, the *Contractor* participates in the integration meetings with the *Employer* and *Other*s as required by the *Employer*. The information obtained from these integration meetings are incorporated into the revised programmes submitted to the *Project Manager*. The *Contractor* ensures that all dates, including Key Dates, between the *Contractor*, the *Employer* and Others are aligned in the revised programme

Where project execution date periods fall during or after public holidays or the annual builders' holidays, festive season, Easter or any Other public holiday recognised by the Public Holidays Act number 36 of 1994, The *Contractor* plans his schedule, work force and resources to ensure the Key Dates and Completion Date is met.

2.6.1 Computerised Planning

Primavera Project Planner (version 6) has been adopted by the *Employer* for all planning, progress monitoring and reporting on the Project. The *Contractor* applies it for the planning and control of the works in line with the accepted WBS. The *Employer* does not accept any programmes, progress reports or other required data and information in PDF or any *Other* form except Primavera Project Planner (version 6).
The *Employer* will have a Master Programme which incorporates the *Contractor's* and Others programmes. The *Contractor* submits updated electronic progress reports as required by the *Project Manager* which requirement is not a compensation event. The updated progress report shows the logic and all filters and layouts used in the programme.

2.6.2 Planning Methodology and Programme Levels

All planning is done based on the CPM. The *Contractor's* planning methodology incorporates the compatibility, alignment and interface with Others on the Project. This is clearly visible to the *Employer*. The Accepted Programme shows the actual critical path clearly. Unless the critical path is affected the *Contractor* does not get a change to the Completion Date [or increase to the Prices].

The Accepted Programme and progress reports layout takes into account the approved WBS, reflecting the manner the works are to be performed and how control data are to be summarised, reported and monitored.

The *Contractor's* Accepted Programme and progress reports include sufficient detail and input to allow for dynamic integrated project control allowing the *Employer* to achieve the requirements of the Project.

2.6.3 Time Reporting

The *Contractor* extracts and provides a one-month "look ahead window" from the Accepted Programme, showing activities per tank. It furthermore shows Key Dates and the activities of the *Employer* and Others, which are scheduled for Completion within the next reporting period in a case where there are interfaces.

2.6.4 Reporting on Remaining Duration

The method for reporting on activities in progress is by remaining duration, i.e. the time, in working days, needed to complete the activity from the report date. Once an activity has started, the remaining duration is assessed for each update.

Automatic reduction of remaining duration as the report date moves forward is not accepted.

2.6.5 Actual Dates

When completion of any activity is confirmed by quoting document numbers, these numbers are given in remarks and are appended, e.g. suborders, drawings, inspection certificates, delivery notes, etc. The actual starting and completion date of all activities is reported.

2.6.6 Progress Reporting during Provision of the Works

The *Contractor* submits its progress reports on the last day of each month and if the last day is not a working day, the preceding working day or more often as required by the *Project Manager*. This requirement does not constitute a compensation event.

The *Contractor* submits, together with the progress reports, a written report containing the following:

Statement and report on work where delay against the Accepted Programme has occurred (if any), together with the reasons why delay has occurred and a plan denoting the action to be taken and the period of time necessary to recover such delay; any impact that the delay may have on *Other*s or an indication of *Other*s affected by the delay.

Statement and report on those Works that are currently ahead of programme, any impact on the progress of Others or an indication of *Other*s affected by the delay.

The impact of any programming changes arising is reflected in revised forecast rate of payment schedules and resource schedules.

2.6.7 Progress Report

The *Employer*; the *Contractor* and *Other*s meet daily to report the overall progress of erection activities which identifies the following:

- any SHE related incidents and remedial actions or plans;
- progress of previous day's work
- resources;
- any deliveries of Plant, Material and Equipment'
- the scheduled date of delivery of Plant, Material and Equipment'
- interface, alignment and compatibility with the *Employer* and Others;
- *Contractor*'s current activities progress and planned finish dates
- *Contractor*'s planned start and finish dates for work
- Planned effort for activities
- Actual effort for activities
- Remaining duration for activities
- Percentage progress for activities

2.6.8 Weekly Progress Report

The *Contractor* submits weekly progress reports to the *Project Manager*. This report is used as a tool for the day-to-day management of the Contract. Contents of a weekly report include the following items:

- Programme summary narrative.
- Progress and performance summaries.
- Schedule rolling horizon.
- Completion and Key Date status.

2.6.9 Monthly Progress Report

The *Contractor* submits to the *Project Manager* a written monthly report as provided for in paragraph 2.6.6 above. The report contains the following information as a minimum requirement:

- Executive summary (narrative identifying major movement within the reporting period).
- Revised Programme indicating, actual progress of work against last Accepted Programme.
- A one-month look ahead work window.
- Activities completed during current reporting period per discipline, including the activities of the *Employer* and Others.
- Activities in progress during current reporting period per discipline, including the activities of the *Employer* and Others.

- Activities undertaken during next reporting period per discipline, including the activities of the *Employer* and Others.
- Status overview by unit, by plant area, by phase.
- Key issues / Items of concern and corrective actions.
- Progress curves and tabular progress reports.
- Cost and Cash flow.
- Cost curve 'S-curve'.
- Early warning log.
- Compensation event log.
- General planning report (computer generated).
- Critical activities report.
- Key event report (computer generated).
- Report selecting all of the activities of the *Employer* and Others - (computer generated).
- Updated bar charts.
- Updated resource schedule and histogram (If changed).
- Updated activity schedule
- Forecast rate of payment schedule updated with actual progress.
- Statement and report on Works ahead and behind progress;
- Skills development progress report (if applicable).

Planner Requirements

The *Contractor*'s planner is experienced, qualified and must be dedicated to the Contract to perform the planning and programming requirements in accordance with this section. During execution, the *Contractor* must provide a full-time planner at the Site.

2.7 Contractor's management, supervision and key people

Proof of qualifications to be submitted to the *Project Manager* for approval and acceptance for the *Contractor* and Subcontractor's key people, including appropriate registrations.

The *Contractor* to submit an operational plan, including organogram for approval and acceptance by the Project *Manager*.

Below are the key persons referred to in clause 24 of the contract. The *Contractor* should on his organogram include the below listed key persons.

The *Contractor* provides the following key people as a minimum:

- Dedicated *Project Manager*
- Dedicated Project Planner
- Dedicated Site Manager
- Dedicated Quality Manager
- Dedicated Quality Control Supervisors

- Dedicated Site Safety Manager
- Dedicated Site Safety Representatives
- Dedicated Engineer
- Dedicated Technical Field Advisors / Specialist
- Dedicated Commissioning Engineers

For the purposes of this Contract, “dedicated” means that the person is allocated only to this Contract, full time, must not be working on any other contract, must be available at Site as and when required, must be available at Site full time during the construction phase, must respond promptly to instructions.
In the *Contractor’s* tender response, the *Contractor* states how many of the key people are required for this Contract. The *Contractor’s* pricing for this provision of this activity must be stated in such a way that the *Employer* is able to assess the number of dedicated persons, their job function and the extent of their availability. If the *Employer* finds that the key people are not a “dedicated” resource, the *Employer* makes a pro rata deduction from the Prices.

2.8 Invoicing and payment

At each *assessment interval*, the *Contractor* submits to the *Employer* a forecast rate of invoicing that includes all the expected payments by the *Employer* to the *Contractor* on a month-by-month basis.
The invoice needs to have all supporting documentation attached to the invoice, rental sheets per *Contractor’s* equipment registers, any other relevant information and signed off by both parties.

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

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

Eskom Holdings SOC Limited
Medupi Power Station
P. Bag 7502
ONVERWACHT
0557

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)

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

1. Submit a pro forma on 20th of each month to the *Employer*
2. The *Employer* will verify and return a payment certificate to the *Contractor* around 25th of the month
3. Following receipt of the payment certificate the *Contractor* would be required to submit a tax invoice to the *Employer* and the following email address invoicesgrpcapitalMHP@eskom.co.za

Invoices should be addressed as below.

Eskom Holding SOC Limited
Medupi Power Station Project
Private Bag X7502
Onverwacht
0555

Eskom VAT no: 4740101508

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)

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

2.9 Insurance provided by the *Employer*

- As stated for in the *Employer`s* Construction All Risk Insurance Policy available on request from Eskom Group Insurance.
- To be dealt with in accordance with ECC3 Core Clause 87.1, 87.2 and 87.3 and additional requirements are also stipulated in Z Clauses

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

2.10 Contract change management

Changes during a term of the Contract are inevitable and when they occur they need to be managed within the policies and procedures of the *Employer*. Changes can be minor which are administrative or substantial which may affect the price and delivery. There are two ways to change a contract:

1. Bilateral
2. Unilateral

Bilateral is when both Parties (*Contractor* and *Employer*) agree that a change is necessary. The second one is the unilateral whereby the *Employer* may exercise a right to modify the contract without the *Contractor'*s consent. In case of latter one, the Eskom procurement and supply chain management procedure 32-1034 must be followed.

2.10.1 Contract changes and contract Scope

Employer's commercial policy requires a competitive process, any change upon the type of goods or services needed must be consistent with what was asked during the tender stage. A contract change needs to be within the scope of what was provided during tender stage. A significant difference will not be allowed because it had not been subjected to fair competition. Transparency is one of PPPFA requirements and as a government owned organisation had to comply with.

2.10.2 Administrative changes

These are the changes that are within the scope of contract and do not affect the originally signed contract. These changes are typically executed via a unilateral amendment. Examples include:

1) Changes in address
2) Correction of typographical errors not affecting the substance of the contract
3) Changes as permitted by the language of the contract
4) Changes in personnel assigned to the contract (exclusion of Key People, these are dealt with as per the contract).

2.10.3 Substantive changes

These are the changes that affect both Parties. They require bilateral amendments. These changes may require one of the Parties to be compensated for such changes as stated in the contract clause 60.1

2.10.4 General Principles of contract change management

Engineering change will be dealt with as per 3.3.1. if either party is in doubt about whether a change fall within the definition of engineering change then it will be processed as a contract change.
Under this contract change management:

1. Either party may request a contract change. All changes need to be formally communicated prior to the implementation of that change.
2. Neither party makes a request that is not made in good faith or for good reasons
3. The *Project Manager* assesses and documents the potential impact of a proposed contract change before presenting it to Medupi Compensation Events Committee
4. The *Project Manager* has the right to request reasonable amendments to a contract change request.
5. The *Project Manager* has the right to reject a change and specify his reasons.
6. No proposed contract change will be implemented by the *Contractor* without prior approval of the *Project Manager*.
7. If the proposed change is of emergency in nature, approval of emergency instructions will be followed as per paragraph 2.10.7,
8. Any contract changes necessary to comply with a Change in Law will be implemented as set out in paragraph 2.10.3 & 2.10.4.
9. Until a change is approved, signed and issued to the *Contractor*, then

   a). Unless the *Project Manager* expressly agrees otherwise in writing, the *Contractor* continues to provide the *works* in accordance with the signed contract as if the proposed contract change does not apply; and

   b). Any discussions, negotiations or other communications which may take place between the *Project Manager* and *Contractor* in connection with any proposed contract change, including submission of any change communications, is without prejudice to each party's other rights under this Contract.
10. The *Project Manager* notifies in writing the *Contractor* stating the reasons why the *Contractor* has not reasonably demonstrated the need or justification for the contract change in connection with the specified event. If the *Contractor* disputes the notice, then the matter is resolved in a risk reduction meeting.
11. Where the *Contractor* does not approve a contract change in respect of a specified event, the *Contractor* notifies his decision within period of reply.

2.10.5 Costs

1. Each party bears its own costs in relation to the preparation and agreement of each change request and impact assessment.
2. All contract changes are calculated in accordance with the principles set out in Price Schedule. Any cost savings resulting from the contract change will be passed on to the *Project Manager* by way of reduction in the charges.2.10.6 Contract Change Request.
3. Either party may issue a contract change request to the other party at any time during the term of the contract. The change request is substantially in the form of Appendix 10, and must state a relevant clause and specify if it is categorised as an emergency change.
4. If the *Contractor* provides a contract change request, he also needs to provide an impact assessment in terms of cost, schedule, and quality.

2.10.6 Impact Assessment

1. Each impact assessment includes (without limitation):
    a. Details of the proposed contract change where the contract change is proposed by the *Contractor* including the reason for the contract change and
    b. Details of the impact of the proposed contract change on the contract and the *Contractor's* ability to meet its other obligations under this contract, including without limitation changes to:

- The Works Information
- Accepted Programme
- Other *Works* provided by Others to the *Employer* including any changes required by the proposed contract change to the *Project Manager*.
- Interface

    c. Details of the estimated cost of implementing the proposed contract change
    d. A schedule for the implementation, together with any proposals for the testing of the contract change
    e. Where applicable details of how the proposed contract change will ensure compliance with any applicable Change in Law and
    f. Such other information as the Project Manager may reasonably request in (or in response to) the change request.

2. The *Project Manager* reviews the Impact Assessment and responds within the period of reply or as agreed with the *Contractor*.
3. If the *Project Manager* requires further information regarding the proposed contract change so that it may properly evaluate the change request and impact assessment, then with the period of reply or

as agreed with the *Contractor*, the *Project Manager* notifies the *Contractor* of this fact and details the further information that is required. The *Contractor* provides the relevant Impact assessment within the period of reply or as agreed with the *Project Manager* of such notification. The parties may repeat the process described in this paragraph until the *Project Manager* is satisfied that it has sufficient information to properly evaluate the change request and impact assessment.

2.10.7 *Project Manager's* right of acceptance of contract changes

Within period of reply of receiving the impact assessment from the *Contractor*, or further information, the *Project Manager* evaluates the change request and the impact assessment in good faith and

1. Submits all the details of the event to the Secretariat of Medupi Compensation Events Committee (CEC) which meets on weekly basis.
2. Presents the details of the event to Medupi CEC
3. Implements the recommendations of the CEC.
4. Notifies the *Contractor* of the rejection of the proposed change. If the Project Manager rejects a proposed change, then he may explain his reasons in writing to the *Contractor* within period of reply or as agreed with the *Contractor.*
5. Require further details on the change request and/or impact assessment in which the *Contractor* makes changes and respond within period of reply or as agreed with the *Project Manager* of such request.
6. If the proposed contract change is recommended by the Compensation Events Committee, the *Project Manager* notifies the *Contractor* in writing. The *Project Manager* signs off on all deviation to the contract (drawings, specifications and other relevant documents) before the implementation of such deviations may take place

2.10.8 *Contractor's* right of acceptance of proposed changes

The *Contractor* has a right to reject a proposed change if he believes any proposed contract change which is requested by the *Project Manager*:

1. Would materially and adversely affect the risks to the health and safety of any person
2. Would require the works to be performed in a way that infringes any Law.
3. Is technically impossible to implement provided that

a. The *Contractor* can demonstrate to the *Project Manager* that the proposed contract change is impossible to implement
b. Neither the Accepted Programme nor the Works Information state that the *Contractor* has technical capacity and flexibility required to implement the proposed change.

4. Would materially and adversely affect the *Contractor's* ability to deliver the works.
5. Would not be possible to implement before contract completion date.
6. Would cause the *Contractor* to breach any of the Insurances
7. Would cause the *Contractor* to be in breach of any existing licence, consent or permit

8. Would require the consent of Others to enable the contract change to be implemented and the *Contractor* is unable to obtain the consent of the Others.
9. Would result in additional cost to the *Contractor* that is not proposed to be paid to the *Contractor* as part of change

2.10.9 Emergency Instruction contract ch*anges*

a. The emergency instruction contract change may cover technical, financial, safety and strategic aspects.
b. The only person who can instruct the *Contractor* to implement such changes is the *Project Manager*. Such instructions need to be subsequently followed by a written formal communication. All changes must be documented and no payment will be made to undocumented change.
c. The *Project Manager* is given restricted authority to cover instructions to the *Contractor* that are of an emergency in nature and which will result in a contract change. Such contract changes are presented to the Compensation Events Committee, by the *Project Manager*, for its retrospective recommendation and ratification by the *Employer*.

2.10.10 Authorisation of Contract Change

Any proposed contract changes are not authorised and the *Contractor* does not implement any proposed contract change until the signed letter and other signed documents (e.g. drawings, specifications) are sent to the *Contractor*.

2.10.11 Communications

1) For any contract change communication to be valid, it must be sent to the *Contractor* as applicable.
2) All *Contract* change communications may be hand delivered or sent by first class post or facsimile. Contract change communications are deemed to have been received at the following times:

a) If hand delivered, than at the time of delivery or, if delivered after 16.00 hours on the next Working Day
b) If posted first class within South Africa at 10h00 on the second Working Day after it put into the post.
c) If sent by facsimile, then at the expiration of four (4) hours after the time of despatch, if despatched before 15h00 on the next Working Day, and in any other case at 10h00 on the next Working Day following the date of despatch.

3) In proving delivery of a contract change communication, it will be sufficient to prove that the delivery was made, or that the envelope containing the contract change communication was properly addressed and posted (by prepaid first class recorded delivery post) or that the facsimile was properly addressed and despatched, as the case may be.

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

The *Contractor* submits the following for compensation event assessment:

- Quotation indicating Current market rate if not included in the short schedule of cost components
- Labour time sheets
- Early warning to the *Project Manager*
- *Project Manager*'s Instruction
- Percentage fee applied
- CPA Calculation where short schedule of cost components rates were utilised
- Signed Record of decisions (ROD) or design change request form for Engineering design changes
- Revised program where key date and completion date is affected
- Revised program where instructed to accelerate by the *Project Manager*
- Invoice from supplier and service providers

2.11 Provision of bonds and guarantees

The form in which a bond or guarantee required by the *conditions of contract* (if any) is to be provided by the *Contractor* is given in Part 1 Agreements and Contract Data, document C1.3, Sureties.

The *Employer* may withhold payment of amounts due to the *Contractor* until the bond or guarantee required in terms of this contract has been received and accepted by the person notified to the *Contractor* by the *Project Manager* to receive and accept such bond or guarantee. Such withholding of payment due to the *Contractor* does not affect the *Employer*'s right to termination stated in this contract.

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

The *Contractor* submits the following for compensation event assessment:

a) Quotation indicating Current market rate if not included in the short schedule of cost components
b) Labour time sheets
c) Early warning to the Project Manager
d) Project Manager's Instruction
e) Percentage fee applied
f) CPA Calculation where short schedule of cost components rates were utilised
g) Signed Record of decisions (ROD) or design change request form for Engineering design changes
h) Revised program where key date and completion date is affected
i) Revised program where instructed to accelerate by the Project Manager
j) Invoice from supplier and service providers

2.13.Training workshops and technology transfer

Refer to the detailed scope document number 348-9995116 where training requirements will be tabled if applicable. The *Contractor* provides training for each unit on the Plant regarding Operating, Maintenance and Engineering aspects of the equipment they provided to the *Employer.* The *Contractor* provides training material and a training course for operating, maintenance and engineering personnel where it is applicable and required. For more detailed requirements on the training required refer to Section 5.2.7 of this *Works* Information

2.14 Documentation and drawing management

2.14.1 Drawing requirements

a) Drawings shall be provided for the required equipment. Typical drawings supplied with the Tender shall show only the equipment supplied. The drawings supplied by the *Employer* are for Tender purposes only and will form the basis for the design and also the formatting.

b) The creation and control of all Engineering Drawings shall be in accordance with the latest revision of Engineering Drawing Standard 240-61227631.

c) All required drawings shall be prepared in accordance with the requirements as specified in the Engineering Drawing Office and Engineering Drawing Standard 240-61227631.

d) A drawing register which records the drawing's information shall be maintained by the *Contractor*.

e) All Design change management shall be performed in accordance to the latest revision of the Medupi Engineering Change Management Procedure 200-5664 found. And the *Employer* shall ensure that *Contractor* is provided with latest revisions of this procedure.

f) Reproductive drawings for Acceptance shall be supplied according to the Vendor Document Submittal Schedule (VDSS).

g) The specific VDSS and delivery timeline requirements of design drawings will be agreed with the *Contractor* upon contract award.

2.14.2 General Documentation

- All documents shall be submitted to the Eskom Documentation Centre in a form of a transmittal, the submission address will be advice by the *Employer*.
- The *Contractor* shall submit Master Document List (MDL), with document titles, document revision, status, transmittal details and project phase. The *Contractor* shall maintain this MDL through the life cycle of the Contract.
- Documents and drawings shall indicate the *Employer*'s drawing number as allocated by the *Employer*. The *Contractor* may have his own internal document or drawing number on the document or drawing, but where reference is made among documents or drawings, the *Employer*'s number shall be used.

2.14.3 General Arrangement Drawings

General Arrangement drawings shall be completely dimensioned, showing as a minimum, the following:

- Arrangement of equipment offered.

- Plant, front view, and other elevation views.
- Required clearances for opening doors and for removing components.
- Conduit or cable entrance locations for bottom entrance.
- Cable racking layouts.
- Incoming and Outgoing cable termination positions.
- Earthing connections.
- Mass of equipment. Individual mass of stationary units, if transported separately.
- Details and position of the holding down bolts.
- Floor layout/equipment layout
- Floor slot arrangement
- All structural arrangements drawing
- Fire layout drawing

2.14.4 Schematic Drawings

Schematic diagrams shall as a minimum show the following:

- All protection and control devices and their contacts, each of which shall be labelled with its correct ANSI device function number, or reference.
- Device terminal numbers, terminal block numbers and terminal numbers.
- All internal interconnections, bus wiring, inter panel wiring and connections to external equipment.
- All control and protection switches.
- Power supply connection.

2.14.5 Wiring Diagrams

Detailed wiring diagrams shall be drawn to show as a minimum the following:

- Approximate physical locations of all items in each control panel on a panel arrangement drawing.
- All interconnecting wiring between control panels.
- Identification of all terminals, terminal blocks, and wires by numbers.
- Clear identification, by some distinguishing method, of all wiring which will be installed by the site installation *Contractor*. This shall include, but not be limited to, trip circuits from remote devices and auxiliary contacts to remote devices.
- This shall also include spare circuits which shall be wired to terminal blocks for future use.

2.15 Quality Management System

The *Contractor* shall be certified and demonstrate compliance to the latest version of the ISO 9001 Quality Management Systems standard.

The *Contractor* shall implement the requirements of the latest revision of the Medupi Quality Specification 200-1689, and have the following documented information as a minimum:

- Quality Policy
- Project Quality Plan

- Operational procedures and work instructions (e.g. inspection and test plans, method statements, control of nonconformity, corrective action, risk management, etc.).
- The *Contractor* shall submit any ITP to be used for review and approval prior to the works.

2.15.1 Inspection

- Inspection activities during manufacturing shall be managed according to the Medupi Manufacturing Inspection and Testing Procedure 200-45965.
- Inspection activities during construction shall be managed according to the Medupi Site Quality Assurance Control and Verification Procedure 200-46362.
- The *Contractor* shall be required to maintain inspection databases where all records of inspection are maintained as required in the Medupi Quality Specification 200-1689.

2.15.2 Data Books

- The *Contractor* shall develop and implement a system for collation of quality verification records, including change management records, Manufacturing, Construction and Commissioning Record Books (Data Books) as specified in the Medupi Quality Specification 200-1689.
- Data Books shall be maintained by the *Contractor* to substantiate conformance to product specifications and requirements. All records shall be safely stored (easily retrievable) following the final completion of the works at takeover. These records shall include as a minimum:

- Quality Management documentation as specified in the Medupi Quality Specification 200-1689
- Safety clearances (to be granted prior commissioning)
- Test certificates
- Construction and as-built drawings and approvals
- Statutory certification
- Commissioning Documentation.

- The data books shall be reviewed by the *Employer* for 30%, 70% and 100% completeness. These reviews shall be agreed and included in the ITP.
- All manufacturing and construction data books shall be completed and approved when the *Contractor* apply for final inspection at construction completion.
- At takeover application, all manufacturing, construction and commissioning data books shall be completed and approved and handed over to the *Employer*.

2.16 Configuration management

2.16.1 Configuration Management Plan

- The *Contractor* shall prepare a configuration management (CM) plan utilizing ISO 10007 as a reference guide for the scope of work. The CM plan shall include the following:
- A complete and comprehensive description of the *Contractor*'s document numbering conventions and revision schema;

- A description of the electronic data management system(s) that the *Contractor* will use for the management of documents and/or configuration items;
- A description of the configuration management activities which will be undertaken by the *Contractor* as well as a rough time-scale thereof;
- A description of the baselines that will be established and the content of these baselines;
- The release procedure for product configuration information;
- The procedure for the control of changes prior to the establishment of baselines as well as after;
- The method for processing changes, emanating both internally and from sub-suppliers;
- The method for collecting, recording, processing and maintaining the data necessary for producing configuration status accounting records;
- The definition of the content and format for all configuration status accounting reports;
- A list of audits which will be conducted to ensure adherence to the CM plan.

2.16.2 Plant Designation

The *Contractor* shall apply the Kraftwerk-Kennzeichensystem (KKS) codification system to uniquely identify the systems, sub-systems and components constituting the Plant.

The *Contractor* shall apply the following guidelines and standards when codifying plant:

- The application of KKS plant coding (NMP 45-7) – 200-4190
- KKS Key Part – Fossil power station (NPSZ 45-45) – 200-18202
- Issuing of KKS certificate – 200-94660
- VGB – B 106 E Part A– KKS Application Commentaries Part A – General
- VGB – B 106 E Part B1 – KKS Application Commentaries Part B1_ Mechanical Engineering
- VGB – B 106 E Part B2 – KKS Application Commentaries Part B2 - Civil Engineering
- VGB – B 106 E Part B3 - KKS Application Commentaries Part B3_Electrical and C&I Engineering
- VGB – B 106 E Part B4 - KKS Application Commentaries Part B4 Identification of C&I and Control Tasks

The *Contractor* shall identify all plant indicated or referenced by documentation by the plant's unique KKS codes within the documentation itself.

- The *Contractor* shall ensure that the codification assigned to plant is consistently maintained throughout the design cycle, e.g. the KKS codes indicated in the O&M manuals are consistent with the KKS codes indicated in the original process and instrumentation diagram.
- The *Employer* shall supply the *Contractor* with a system-level plant breakdown structure (PBS) of the existing plant at the Site, as well as a preliminary system-level plant breakdown structure of the plant within the *Contractor*'s scope at contract initiation. The *Contractor* shall review the PBS to ensure alignment with the *Contractor*'s design philosophy, and shall expand the PBS to the complete system level (Fn level of the KKS hierarchy). The *Contractor* shall provide a complete system-level PBS with the submission of the process flow diagrams of the plant within the *Contractor*'s scope.
- The *Contractor* shall codify all equipment, and any components which are required to be codified as per the guidelines and standards referenced in this document. The *Contractor* shall indicate

equipment and component codification in drawings and documents indicating or referencing such plant.

- The *Contractor* will submit all KKS codes designated by the *Contractor*, with the documents in which they were originally designated, to the *Employer* for review. The *Contractor* will remain responsible for ensuring that the codes designated are unique and meet the requirements established by the various standards applicable to the Project. Where any ambiguities or doubts with regards to KKS codification exist, the *Contractor* will engage the *Employer* for resolution.

2.16.3 Plant Labelling

- The *Contractor* shall manufacture and install labels according to the Medupi Label specification, 200-3340.
- Any abbreviations to plant descriptions shall be prepared in accordance to the *Employer*'s abbreviation standard, 200-5343
- Detailed nameplate or label lists with the service legends and including the KKS Code shall be prepared by the Contractor and submitted to the *Employer* for review and comment before commencing the manufacture of the labels. On plant areas where labels do not make ergonomically sense please consult site configuration management for guidance.
- The Electrical and C&I equipment installed are fully labelled and labelling should be maintained as is. The *Contractor* should make provision for replacement of any lost or damaged labels.
- The *Contractor* should label all new equipment procured.

2.16.4 Plant Designation within Documentation

The *Contractor* shall prepare a list of KKS designations allocated to components for each scope of delivery or system (this list will be referred to as equipment list in the rest of this document for simplicity's sake, but includes documents such as cable schedules, valve schedules, etc.). The equipment list shall be submitted with the original implementation documentation describing the design of the system (e.g. process and instrumentation diagram, single line diagram, etc.). The *Contractor* shall ensure that the equipment list accurately represents the implementation documentation which it accompanies. The content of the lists will be agreed to per discipline with the *Employer*. As a minimum, the equipment list shall include:
The KKS designation of all components within the relevant scope or system;
The full verbal description of each component, compiled according to the standards referenced in this document;
The abbreviated description of the each component, utilising abbreviations as listed in the referenced project abbreviation list, and abbreviated to a number of characters as required by the project digital control system (DCS) and as per the label requirements in, 200-3340;
The approval status of each component, in alignment with the list of approval statuses specified for document.

Design and Construction criteria:

a. The *Contractor* shall design and construct the Works in accordance to this Technical specification/SOW, all final reviewed and approved construction drawings, Construction Regulations, Medupi Quality control specifications and the SANS 2001 specifications, as well as all other relevant design and construction SANS and Eskom specifications.
b. The *Contractor* shall ensure alignment with respect to degree of accuracy for every interface and where the *Employer*'s standards are limited on information shall make use of the relevant SANS and design standards.
c. The Works to be provided by the *Contractor* shall include, but is not limited to all scaffolding, site cranes, lifting equipment and construction vehicles. All excavations, earthworks and terracing as required; all signage required; any modifications required for the use of existing infrastructure (including analysis and certification) ; and all materials, facilities and samples required to perform inspections, tests and commissioning as per the relevant statutory and regulatory standards and as per this Technical Specification.

Construction Monitoring by *Contractor's* Designer and Professional Engineering Certification by C*ontractor's* Designer

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

The *Contractor* is expected to submit an organogram with relevant experience and qualifications of the execution team. In addition to the above, project cost and schedule estimates need to be submitted to the *Project Manager* for his acceptance. The *Contracto*r shall submit procedures, method statement, Inspections and Test Plan prior commencement of works where design work is required.

2.17.1 Engineering Changes

Engineering change is any change to an established baseline related to the plant system, such as its configuration documentation, design requirements, technical operating documentation, operating margins and set points, replacement of alternative components with equivalents.

Any change on the Contract must be recorded and correct procedure must be used to implement the change on the project.

2.17.2 Engineering Change Procedure

The *Contractor* takes note of the *Employer's* Engineering Change Procedure (240-53114026). The Engineering change procedure applies to the *Employer's* personnel or *Contractors* performing engineering or engineering related work where the quality of the engineering work performed is the direct responsibility of Eskom.

2.17.3 Design Change Procedure

The *Contractor* is the Design Authority as defined in the Design Review Procedure (240-53113685). The *Contractor* is responsible for following this design procedure and conducts all the design reviews as specified in this procedure. The *Contractor* is responsible for conducting the following design reviews where applicable:

a) Design Freeze Review

b) Integrated Design Review

c) Construction Completion Review

d) Acceptance Testing Review

2.17.4 Procedure for Submission of Change Documents

The *Contractor* must complete the engineering/design change [report/request] within [5 days] or such other time period that the *Project Manager* and *Contractor* agree is reasonable in the circumstances, of the *Project Manager*'s instruction changing the Works Information.

In completing the engineering change report, the *Contractor*:

a. Takes into account the impact of the *Project Manager's* instruction on the *Contractor's* works, in accordance with the Works Information and the Contract;

b. Provides the *Project Manager* with the impact on the *Contractor's* detailed design, programme, costs, Completion Date, Key Dates, execution and methodologies;

This information from the *Contractor* will be sent to the Others on the Project in order to integrate the system and ensure that the *Employer*'s objectives in relation to the Project are achieved. Likewise, the *Contractor* may during the *Contract* receive such information, via the *Project Manager*, from Others. The *Contractor* assesses this information to:

a) Assess the impact of this on the *Contractor's* works, in accordance with the Works Information and the Contract;

b) Provide the *Project Manager* with the impact on the *Contractor's* detailed design, programme, costs, Completion Date, Key Dates, execution and methodologies;

Within [5 calendar days] or such *Other* time period that the *Project Manager* and *Contractor* agree is reasonable in the circumstances of the *Contractor* submitting (or receiving this information), the *Contractor* attends a meeting with the *Employer* and Others on the Project to align the *Employer*, *Contractor* and Others' works and ensure compatibility and integration of the Project;

The *Contractor* submits its revised information within [5 calendar days], or such other time period that the *Project Manager* and *Contractor* agree is reasonable in the circumstances, taking into account all information received from the *Employer* and Others.

Where the *Contractor* is unable to comply with the Contract or Works Information, he promptly notifies the *Project Manager* of:

a) Details of the non-compliance;

b) Impact of non-compliance on his and *Others;*

c) Remedial steps to be taken.

3. Scope of work

3.1 Location

In this section the available information and earmarked location details of the Kuipersbuld fence and guard house are detailed.

3.1.1 Available site surveys and location information

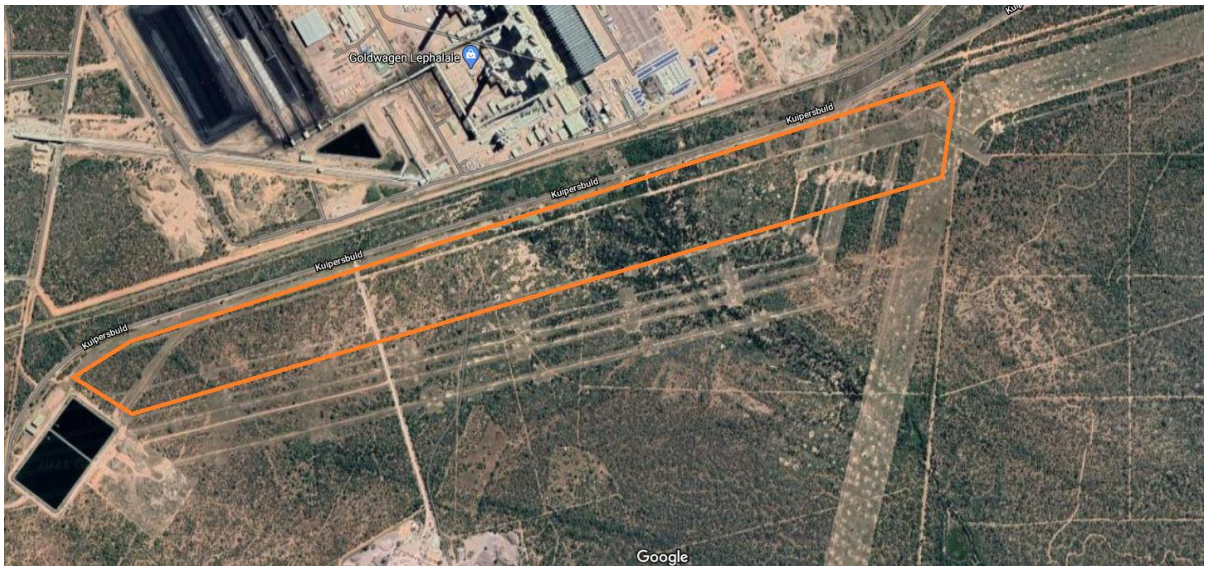

Figure 1: Eskom Property Boundary on the southern side of Kuipersbuild road indicated in orange

Figure 2: One of many LPS structures currently constructed and operational within the Eskom property leading up to the Medupi Power Station.

Figure 3: Chequered plate covering and hatches on the valve pits that require security locks to be added to prevent unauthorized access.

Figure 4: The Northern side view of the Reservoir Valve Inlet Station (RIP building) on the eastern side of the already constructed Raw water Pumpstation fence.

Figure 5: Top view of the Raw Water Pumpstation area and the proposed location of the guard house as indicated in red rectangle.

3.1.2 Existing services and systems at medupi power station

A. The Employer will provide, to the best of their knowledge, available layouts of all known underground services (overhead services can be observed through site inspection) that may affect the design and construction works. This is intended to assist the *Contractor* in identifying the exact location of the services. It is the responsibility of the *Contractor* to conduct proper scans to identify and manage all the underground services affecting his/her works. The *Contractor* shall include provision for scanning of underground services including cables and pipes prior to excavations within the earmarked location of the of security building. The *Contractor* shall point out any underground and/or overhead services that may be affected by the construction activities prior to commencing with the works.

A. Available services, systems, and general details of the Kuipersbuld road and location of guard house at the Raw water pumpstation

i. Refer to the 0.84/68281 General Arrangement drawing

B. Existing fence at Raw Water Pumpstation

ii. Refer to the drawing 0.84/449 sheet 1 of 1 for information regarding the fence currently installed at Raw Water Pumpstation

C. Other existing fences along Kuipersbuld road

iii. No existing drawing exists for this fence however the most recent phots of site have been shared in Appendix A.

D. Medupi Power Station Layout and laydown area details

iv. Where necessary the latest Medupi Power Station general layouts shall be shared with the *Contractor* for information.

v. The *Contractor's* designated laydown area details will be communicated by Employer's appropriate department representative. *Contractor* to also refer to sections later in this document for considerations for the laydown area.

E. LPS structures and their respective drawings are listed in the table below.

Table 1: Drawings numbers of the various LPS structures

LPS structure on Eskom Property	Drawing reference
Vent Pit 3	0.84/25945 sheet 1 rev 3
Vent Pit 4	0.84/25945 sheet 1 rev 3
Vent Pit 5	0.84/25945 sheet 1 rev 3
By-pass Pit	0.84/48722 sheet 1 rev 0,0.84/27777 sheet 1 rev 3
Scour 6	0.84/33942 sheet 1 rev 2,0.84/33944 sheet 1 rev 3
Scour 7	0.84/33942 sheet 1 rev 2,0.84/33944 sheet 1 rev 3
Vent Pit 6	0.84/33948 sheet 1 rev 3,
Vent Pit 7	0.84/33939 sheet 1 rev 3
Vent Pit 8	0.84/33948 sheet 1 rev 3,0.84/33939 sheet 1 rev 3
Crossing 5	0.84/27774 sheet 1 rev 5
Crossing 6	0.84/27775 sheet 1 rev 4

3.2 General Requirements

3.2.1 Environmental Requirements

A. The *Contractor* should note the adverse weather conditions (especially high temperatures) typically experienced in the Lephalale region and on Medupi Power Station. The impact of weather on all works specified in this SoW shall be adequately addressed by the *Contractor* in the various planning and execution phases of this project and in accordance with relevant regulations and Eskom standards.

B. The *Contractor* shall adhere to the relevant SHEQ normative and informative standards to ensure that all works satisfy the required quality standards and achieve the desired lifespan of 50 years.

C. The *Contractor* to also ensure the following with respect to Environmental Management:

i. That all requirements of the Medupi Approved Construction Environmental Management Plan (EMP), Record of Decision/ Environmental Authorisation, Water Use Licences, Medupi

EMS Scope and Manual 200-7397, and all legal requirements/permits are compiled to (where applicable).

ii. That the construction EMP, and relevant method statements (e.g. Site establishment, water, dust, waste, SPCC, stockpile and biodiversity management and rehabilitation) are submitted to the Employer's Environmental Department for approval prior commencement of construction activities.

iii. All potential environmental risks are identified, and mitigation measures are identified and implemented during all stages of the project.

iv. That incidents are prevented where possible and corrective actions are speedily actioned for the Environmental Control Officer (ECO) to approve where applicable.

v. monthly reports are submitted to the Environmental Department which must include among others the following:
   - All incidents,
   - PCARS and NODs,
   - All activities on site
   - Aspects and Impacts register
   - Waste records, and
   - Awareness records The *Contractor* shall comply with the environmental criteria and constraints stated in Environmental procedure.

vi. Ensuring adherence to the environmental specifications;

vii. Ensuring that Method Statements are submitted to the ECO for approval before any work is undertaken. Any lack of adherence to this will be considered as non-compliance to the specifications.

viii. Ensuring that any instructions issued by the Engineer, on the advice of the ECO, are adhered to.

ix. Ensuring that there must be communication tabled in the form of a report at each site meeting, which will document all incidents that have occurred during the period before the site meeting;

x. Ensuring that a register is kept at the site office, which lists all the transgressions issued by the ECO;

xi. Ensuring that a register of all public complaints is maintained.

xii. Ensure that all employees, including those of *sub-Contractors* receive training before the commencement of construction in order that they can constructively contribute towards the successful implementation of the environmental requirements of the Contract.

xiii. The most important actions by the *Contractor* to ensure compliance with the environmental requirements, relates to the establishment of an adequate and appropriate organizational structure for ensuring the implementation and monitoring of the requisite environmental controls.

xiv. Compile an Environmental monitoring plan outlining all the construction activities, associated environmental impacts and how they will be mitigated.

xv. Appoint an environmental officer for the project and provide the site environmental profile;

xvi. Ensure that the project pricing makes provision for environmental costs.

xvii. *Contractor* shall attach a company waste management plan including the typical waste inventory and templates used for keeping waste records.

xviii. *Contractor* shall attach Environmental Management system documentation that is aligned to ISO 14001

xix. Include environmental considerations as an item on the agenda of the monthly site meetings

xx. Compile and implement the necessary Method Statements; and

xxi. Undertake environmental awareness training of all site staff during the commencement of each Contract, with regular refreshers for the duration of the Contract

xxii. The environmental file will be required for approval by the client prior commencement of work of site.

3.2.2 Manufacturing, fabrication, inspection and testing requirements

A. The following list includes but is not limited to the records and documentation that the *Contractor* is expected to produce and compile into the necessary handover datapacks. The handover packs shall be progressively submitted to the Employer for review during this project. All records and documentation submitted to the Employer shall be in accordance with the normative and informative quality procedures and relevant national regulations and international standards.

i. All manufacturing, fabrication and relevant batch certificates

ii. Performing of the required off-site and on-site inspections in line with approved ITP/QCP

iii. Corrosion Protection and NDT Testing documentation

iv. Welding documents (including but not limited to WPS, WQR, WPQR)

v. Calibration certificates

3.3 Design requirements

A. The *Contracto*r shall comply with the Eskom Design Review and Change Management procedures when submitting all designs to Employer. Additionally, the *Contractor* shall be expected to include but not be limited to adhering, addressing and providing for the following requirements to complete the design portion of the works for this project.

3.3.1.1 Geotechnical investigations and surveys requirements

The *Contractor* shall include provision for the following:

A. The *Contractor* shall carry out the required surveys (including but not limited to GPR scanning for the underground services already installed/constructed along Kuipersbuld road) to conclude his/her design.

B. Geotechnical investigations deemed necessary.

C. The *Contractor* shall also supply all required equipment, construction vehicles and resources required to execute the survey and geotechnical works.

D. The geotechnical investigations may include but not be limited to performing all necessary geotechnical soil testing, profiling, surveys, scanning of existing services, performing excavations for test pits, completing all required assessments and inspections of test pits, the testing of backfilling and other required excavations or reinstatement works (including backfilling of test pits), as well as the collection and transporting of all soil samples for laboratory testing to SANAS accredited facility. All geotechnical works to be carried out in accordance with the SAICE Site Investigation Code of Practice, 2010 and Revised Guide to Soil Profiling for Civil Engineering purposes in Southern Africa" Trans. S.A.I.C.E, Vol. 15.

3.3.2 Fence Design Requirements

3.3.2.1 Civil and Structural Fence Design Requirements

A. Fence length

i. The approximate length for the new fence is indicated on the 0.84/68281 however the *Contractor* will need to verify this length as part of their initial surveys. The fence shall also have lockable gates (for entry of either personnel and/or vehicles) located at strategically along the length of the fence to ensure access for operations and maintenance.

- Note: The boundary fence length (southern side of Kuipersbuld road) and the localized fence length (northern side of Kuipersbuld road around the two LPS

structures) are both different and indicated as such on the 0.84/68281 general layout drawing.

ii. The general layout indicates the possible positions of the gates, current constructed LPS structures and the earmarked position of the guard house at the Raw water Pumpstation.

B. Fence Design Drawings

i. The following listed drawings shall be assessed by the *Contractor* prior to being developed into a final detailed design for the fence along the Kuipersbuld road and around the LPS structures on the northern side of Kuipersbuld road. Therefore, the *Contractor* shall be expected to review, modify and takeover the design supply, construct, monitor and certify this fence design.

Table 2: The following conceptual drawings shall be used by the *Contractor*

Conceptual Drawings	Proposed use
0.54/398 sheet 1	Reinstatement of Boundary fence (southern side of Kuipersbuld road)
0.54/398 sheet 2	Reinstatement of Boundary fence (southern side of Kuipersbuld road)
0.54/4963 sheet 1	Localized fence for LPS structure (northern side of Kuipersbuld road)
0.54/4963 sheet 2	Localized fence for LPS structure (northern side of Kuipersbuld road)
0.54/4963 sheet 3	Localized fence for LPS structure (northern side of Kuipersbuld road)
0.54/4963 sheet 4	Localized fence for LPS structure (northern side of Kuipersbuld road)
0.54/4963 sheet 5	Localized fence for LPS structure (northern side of Kuipersbuld road)

C. The *Contractor* shall therefore use the drawings listed in Table 4 as a concept and develop the available drawings into a final and optimised detailed design and assume full professional design liability.

3.3.2.2 Electrical and Earthing Fence Design Requirements

A. When an electric fence is installed in the proximity of an overhead power conductor, it shall comply with requirements of SANS 60335-2-76

B. In areas where the overhead Transmission lines crosses the fence, the bare insulated copper should be installed 70 m deep.

C. For every 30m Earth pack is 1,2m with the earth clamp on earth pack to non -leave earth wire, connected by 6mm copper wire, possible 200mm to 250mm, connected with 2 clamps (1 copper clamp and 1 line clamp).

D. Design shall adhere to Earthing of Electric Fence Standards SANS10222-3

3.3.2.3 Security and protection design requirements

A. The appropriate number of Padlocks (heavy duty/) to lock all necessary LPS structures with lockable hatches to be procured and installed.

B. The appropriate Padlocks and chain to be procured and installed for all the necessary fence gates that are constructed along the fence.

C. Two sets of keys shall be made for each fence gate and for all Padlocks. All sets of keys shall be handed over to Employer after the necessary commissioning procedures and handover inspections have been completed.

3.3.3 Design requirements for guard house and tank support structures

3.3.3.1 General Requirements

A. The *Contractor* shall ensure a minimum design life of 50 years for his/her design.

B. The *Contractor* shall be free issued with a Medupi ablution cabin/parkhome.

C. The Contractor shall be expected to conduct a site visit and inspection to verify the cabin/parkhome dimensions and physical condition (Refer to Appendix A for photographs of the cabin/parkhome 12m Length x 3m Width x 3m Height).

D. The *Contractor* shall make provision to dismantle (where necessary), load and transport the cabin/parkhome from Portion 7 (an Eskom property in Lephalale town and deliver (including reassemble) the cabin/parkhome to Raw Water Pumpstation and convert/modify this cabin/parkhome into a guard house.

E. The *Contractor* shall make provision for condition assessment of the cabin/parkhome including design, construction and installations of all necessary modifications to modify the cabin/parkhome into a guardhouse as per Employer's floor plan requirements.

F. The guard house design shall include an appropriately designed access walkway, apron slab, interlinking gravel roads around the it and necessary protection measures to prevent animals, reptiles and insects from nesting under the cabin/parkhome or gaining access through the windows.

G. The guard house design shall cater for a shift of two security guards every 12 hours and be suitably equipped with the necessary services. The guard house shall have a kitchen area, sitting area and ablution rooms (male and female).

H. The *Contractor* shall design and construct all required building services. The necessary services for the guard house shall include but not be not limited to a water storage tank, water pump and associated fixtures, piping connections, plumbing, conservancy tank and its associated piping/drainage connections, as well as the electrical power supply, lighting, plug points cabling and trunking).

I. When designing, supplying and installing the conservancy tank the *Contractor* shall ensure that all of the related above and/or underground support and containment structures, drainage and piping are adequately sized and designed as required.

J. Waste management (including but not limited to the conservancy tank) within the guard house shall comply with the relevant environmental Eskom procedures, supplier data sheet, operational and maintenance manuals and relevant standards as listed in the normative and informative section of this document.

K. A final set of drawings (including a general layout drawing) shall also be produced by the *Contractor* for the guard house indicating all necessary design details and notes.

L. The *Contractor* shall include provision for all incidental works.

3.3.3.2 Civil and Structural Design Requirements

A. Earthworks and ground preparations
   i. The *Contractor* shall design all required ground preparation works necessary to support the structures.
   ii. At minimum the *Contractor* shall comply with the geotechnical design standards as listed in the normative and informative section of this document.

B. Concrete

i. Where necessary the *Contractor* shall design all the required foundations, supportive tank structures and other concrete works in compliance to Medupi concrete specification).
ii. The guard house design must include the appropriate paving and apron design (including but limited to block paving or concrete apron slabs with a minimum of 1000mm wide and fall at least 20mm away from the guard house) as well as access walkway. The apron slab or paving and walkway designs shall consider safe movement and access into, out of and around the guard house, as well as for economical and easily maintainable designs, suitable material selection as well as effective surface drainage that prevents ponding around the guard house and other structures as deemed necessary by Designer for this area of site.

C. Steel
i. The guard house shall be able to withstand the necessary external and internal loadings as described in the relevant SANS design codes and Eskom standards.
ii. All grades of steel shall comply with the design drawings, notes regarding finishes and the necessary SANS codes and Eskom standards listed in the normative and informative section of this document.
iii. All structural steel elements including but not limited to metal grating, stair treads, handrails, chequered plates and fasteners that are required to be hot dipped galvanized shall conform to SANS 121 and the Medupi corrosion specification.

D. Stormwater management
i. The *Contractor* shall supply and install as deemed required all downpipes and gutters for effective roof drainage of the guard house. The gutters and downpipes should also effectively direct water away from the building while avoiding ponding and soil erosion of the area surrounding the guard house and other tank structures.
ii. No stormwater infrastructure exists in and around the Raw Water Pumpstation area.

E. Terracing and rehabilitation
i. The *Contractor* shall ensure the area is shaped, rehabilitated and terraced in a manner that matches existing levels and that avoids water ponding in and around all structures in the Raw Water Pumpstation area.
ii. All access roads shall match the existing roads at Raw Water Pumpstation (i.e. suitably interconnected and suitably levelled to levels of the existing sand and gravel roads that are can be easily maintained).

3.3.3.3 Architectural Design Requirements

The *Contractor* shall also ensure adherence with the applicable specifications listed in the normative and informative section of this document, including but not limited to SANS 10400 and 200-26680 - Medupi Power Station Architectural Technical Specification for Structures & Other Buildings, as well as 200-4056 - Power Station Architectural Technical Specifications for Structures and other Buildings and 240-52599753 - Workplace space and Furniture Standard for Commercial Properties specifications).

A. Ablutions fixtures

i. x 1 Hand wash basin with tap

ii. x 2 Toilets (separate)

iii. All the associated drainage, plumbing and piping per SANS and Eskom standards

B. Kitchen fixtures

i. 1 x Hydro Boil (10 liter)
ii. 1 x Sink and tap
iii. 1 x Sink cabinet/cupboard
iv. All the associated drainage, plumbing and piping per SANS and Eskom standards

C. Conservancy tank

i. The conservancy tank shall be sized and designed in compliance to all relevant codes and regulations including but not limited to SANS 10400.
ii. All black and grey water from the guard house (i.e. from the kitchen sink, hand wash basin and toilet) shall be directed to the conservancy tank.
iii. The *Contractor* shall make provisions for sufficient accessibility for maintenance to the conservancy tank and, adequate design and construction protection measures for the conservancy tank including but not limited to optimum material and containment measures, preventing spillage and containing odours.

D. Roofing, Gutters and Downpipes

i. All steel elements shall be designed, fabricated, corrosion protected and installed as applicable to the *Contractors* design and in compliance with the relevant SANS and Eskom standards.

E. Guard house finishes

i. All finishes shall be specified by the *Contractors* architect in compliance to Eskom specifications and SANS 10400.

F. Occupants/ Staff Requirements

i. The *Contractor's* architect shall cater for two security guards occupying the guard house every 12 hours.

3.3.3.4 Potable Water Supply

A. The *Contractor* shall design, construct, procure, supply and install a suitably sized potable water storage tank (that will supply the guard house ablution and kitchen).
B. The potable water storage tank shall also be designed with an adequate covered and secure concrete supporting structure, as well a sufficiently sized water pump system with necessary piping and connection fixtures that supplies potable water at the appropriate pressure to the guard house.
C. The *Contractor* will ensure that all materials selected complies with the necessary water quality standards during the operations of water storage tank.
D. Provisions to be made for efficient movement and accessibility in and around the guard house to perform necessary maintenance.
E. A maintenance manual shall be compiled for the Employer acceptance and use for the lifespan of the water storage tank.
F. The potable water storage tank shall be sufficiently protected, locked and covered to ensure it remains operational during all weather conditions and secure from any animals, reptiles, birds or insects possibly accessing it.
G. Any potable water that will be supplied to a water storage tank should comply with 240-55864764 Chemistry Standard for Potable Water. It is essential that all testing and checks for any sludge and internal cleanliness of the water storage tank is carried out every 2 years or as deemed required (this will vary depending on quality of water entering your tank).

3.3.3.5 HVAC Design Requirements

A. The *Contractor* shall procure, supply, install, test and commission sufficiently sized Inverter split air conditioning units. Two split aircons shall be installed in the space after heat load calculations.

B. The condensate drains pipes, from the Indoor and outdoor units of the aircons, should be neatly installed with spacer saddles to the ground. If the drainage piping is connected to the sanitary drainage, the *Contractor* should provide a U-trap and a funnel to avoid smell/odour blow-back to the air con.

3.3.3.6 Fire Protection Design Requirements

A. The *Contractor* shall procure, supply, install, test and commission fire protection equipment suitable for a guard house.

B. The fire protection shall comply with occupancy classification for a guard house and National Building Regulations SANS 10400-part T.

C. A single emergency door exit shall be installed in the guard house and it shall open in the direction of travel (outwards), with one hour rating and the minimum door size requirements shall comply with relevant SANS, Eskom standards and NFPA 101- 2009 Life Safety Code.

3.3.3.7 Small Power, Lighting And Earthing Design Requirements

Available 63A at the Raw Water Substation will be adequate for guard house for Lighting and Small Power for the guard house Concluded, refer to Rethabile email indication no light masts required but that the building shall have sufficient lighting around it.

A.

B. The *Contractor* shall design, manufacture, install and commission lighting and small power for the guard house (includes but not limited to plug points, light switches and DB board) and appropriately positioned lighting/light masts/floodlights (taking into consideration surrounding transmission lines) leading up to the guard house from the front gate.

C. All electrical equipment selected for the classified areas must comply with the area classification requirements and applicable standards. The design must cater for minimising the electrical equipment in hazardous zones by locating this equipment in less hazardous zones.

D. Lux levels survey shall be conducted upon completion of lighting installation to ensure or guarantee that the illuminance meets the requirements of South African National Standards as well as minimum values stipulated by Occupational Health and Safety Act 1993.

E. Design updates on load, cable and termination schedules.

F. The *Contractor* shall submit both manufacturing and construction ITPs for lighting and power distribution board for acceptance by the Employer prior to starting with actual works.

G. Factory acceptance testing/inspection is mandatory for small power and lighting distribution board as well as light fittings.

H. All lighting and small power designs and installations shall comply with the following standards:
   i. 240-55714363 Eskom generation Lighting and Small Power Installation Standard
   ii. Act: Occupational health and Safety
   iii. SANS 204: Energy Efficiency in Buildings
   iv. SANS 10142-1: The wiring of premises Part 1: Low-voltage installations

3.3.3.8 Earthing Design Requirements

A. The *Contractor* will be responsible to design, installation, and commissioning of the earth mat and lightning protection for the security guard building

B. The *Contractor* shall design earthing and lightning protection systems in accordance with 240-56356396 Earthing and Lightning Protection Standard and 0.84/3482 Medupi Power Station Earthing Standards.

C. The *Contractor* shall perform earthing continuity tests as part of the quality control process and provide an earthing certificate for all tested equipment. The tested earthing points must be marked and recorded for reference purposes (plant earthing maintenance purposes). All installation plans must be submitted to the Employer for witnessing of testing and commissioning.

D. The *Contractor* shall ensure that all outdoor electrical equipment is weatherproof with at least an IP 65 rating

3.3.4 Design constraints

Provisions should be made by the *Contractor* to clarify, address and as far as reasonably possible minimise the negative impact of the risks that may arise from the following design, supply and installation constraints that have been identified for this project:

A. There is no available infrastructure (stormwater drainage lines or potable water supply lines) that exists in and around the Raw Water Pumpstation area.

B. Interface with existing fences and existing adjacent infrastructure

C. Site and Weather conditions

D. existing above ground and underground services.

E. existing roads and travel routes constraints

3.4 Construction scope

The *Contracto*r shall include but not be limited to adhering, addressing and providing for the following requirements to complete the works for this project.

3.4.1 General construction requirements

3.4.1.1 Site Excavation And Clearing Along Fence

A. Execution of the necessary site excavations, backfilling and vegetation clearing in accordance with but not limited to the normative and informative standards.
   i. Strategic pathway and vegetation clearing to allow for security personnel to safely travel along the length of the fence during shifts. This will be executed for the Raw Water Pumpstation fence as well as for the newly constructed fences along northern and southern sides Kuipersbuld road.
   ii. These works shall include but be limited to performing all necessary surveys and scans, terracing, reshaping/rehabilitating, waste disposal and management, clearing away of dilapidated structures along the fence line and provision for all equipment and resources.

B. All necessary National roadway regulations shall be considered prior to construction of the works along Kuipersbuld road.

3.4.2 Civil and strucutral construction requirements

3.4.2.1 Earthworks and ground preparations

A. The *Contractor* shall ensure that all the necessary excavation permits to perform geotechnical investigations, associated excavations, backfilling and soil compaction are in place and in compliance with Eskom procedures.

B. The *Contractor* shall ensure that all necessary surveys and scanning (particularly for services along the fence boundary line and under the guard house) are completed prior to commencing any geotechnical and ground preparations.

C. The *Contractor* shall ensure the ground is adequately compacted and levelled to support the guard house foundation.

3.4.2.2 Concrete Works

A. All concrete works shall be constructed in accordance with the Medupi Concrete specification for structural concrete (84CIVL053) and all applicable design drawings and design specifications.

B. Minimum strength for structural concrete on Medupi power station is 35 MPa, unless otherwise specified by *Contractors* Designer or indicated on the approved design drawings.

C. The exposure condition of the concrete in an aggressive environment is classified as severe in accordance with SANS 10100-2, hence the quality of concrete works executed is crucial. To ensure durability of the works, all reinforced concrete works shall be designed to limit the concrete crack widths to a maximum of 0,004 time the nominal concrete cover specified. The *Contractor* shall ensure that concrete design, detailing and, construction work is executed in a manner that ensures plastic-shrinkage cracks and drying-shrinkage cracks are limited to the specified crack widths

D. The *Contractor* shall submit, prior to the casting of any concrete, to the Employer the following for review and acceptance:
   i. Concrete mix designs, concrete-mix trial test cube results and all other required test results are captured in the Medupi Power Station Specification for Structural Concrete (84CIVL053).
   ii. Detailed construction method statements, risk assessments, safe work procedures and Inspection Test Plans/Quality Control Plans.

3.4.2.3 Concrete Testing

A. The *Contactor* to fully comply with the testing stipulated in document 84CIVL053. Should any details regarding concrete testing and/or concrete material testing and their associated frequency be unclear, the *Contractor* and Employer's engineering team shall discuss and agree on applicability, acceptable tolerances/criteria to be met and frequency of performing concrete testing. All test results to be submitted to the Employer for review and shall also included in the relevant handover datapack.

B. All concrete works executed by the *Contractor* may be required to undergo durability index tests. Where applicable durability index tests may be used to assess the durability of existing works in the absence of the specified quality assurance and quality control tests during construction.

C. Three durability tests are defined in the SANS 3001 C03 series as listed in the normative section of this document:
   i. Oxygen Permeability Index test
   ii. Chloride Conductivity test
   iii. Water Sorptivity test

D. Table below provides classification for different test results for the three tests. The acceptance criteria for test results for the three different tests shall be classified as "Good" or "Excellent". The *Contractor* to ensure the works are scheduled taking into consideration time for defects resolutions.

Table 3: Durability tests and their associated acceptance criteria levels

	Oxygen Permeability	Sorptivity	Chloride Conductivity
Excellent	> 10	< 6.0	< 0.75
Good	9.5 - 10	6 - 10	0.75 - 1.5
Poor	9.0 - 9.5	10 - 15	1.5 - 2.5
Very Poor	< 9.0	> 15	> 2.5

E. The *Contractor* shall submit subject matter expert reports at the cost of the *Contractor* for material and concrete testing, as specified or agreed between the Employer and *Contractor*, if such data is missing from the data books. Such report shall provide assurance of testing/calculations to indicate the acceptability of the materials used and to assure that long-term technical assurance of the works and design intent. Where needed, in addition to the above indicated durability index tests, the *Contractor's* designer/subject specialist must consider the following aspects as part of long-term durability assurance:
   i. In the absence of the specified concrete drying shrinkage tests, or concrete cracking identified that exceeds the crack width limits, the *Contractor's* designer/subject specialist shall investigate, test, analyse and make where necessary recommendations supported by a detailed report and risk assessment which shall be submitted to the Employer for review and acceptance.

ii. In the absence of concrete tests results for chlorides and sulphates further testing and reporting is required by the *Contractor's* designer/subject specialist. The concrete works could be tested for chlorides in accordance with BS 1881 Part 124 1988 test procedure and sulphates in the concrete works could be tested in accordance with SABS method 850-1:1998.

iii. In the absence of Alkali-Silica reaction tests as specified by the Eskom concrete specification the *Contractor* shall appoint a subject specialist to inspect, review available data, test and submit a report with a risk assessment and recommendation for acceptance by the Employer.

3.4.2.4 Steel Works

A. The *Contractor* shall ensure that all conceptual, detailed, and final construction drawings are approved as per Eskom's review processes prior to beginning construction and that compliance is maintained to all specifications, particularly for all material grades that are fabricated and erected on site (i.e. this includes but is not limited to the fabrication and erection tolerances, testing parameters and corrosion protection required for steel structures and their supporting elements). The *Contractor* is also required to submit to the Employer, steel grade certificates, fabrication drawings, welder's certificates and quality and test plans for review prior to fabrication

B. All structural steel work must be designed, manufactured, and erected in accordance with all relevant SANS and Eskom specifications.

C. Only coded welders are to perform all welding works. The Contractor shall provide all supporting welding documentation to the Employer for review and acceptance prior to construction and in compliance to the relevant Eskom Quality procedures. Note: All welding is required to comply with AWS D1.1.

D. All welding joints are required to be inspected using visual aids and/or non-destructive tests as indicated below:
   i. Butt welds 100% ultrasonic NDT
   ii. Fillet welds 20% MPI.
   iii. Or as directed by the *Contractor* and agreed with the Employer

3.4.2.5 Construction Monitoring

A. The *Contractor* shall provide the appropriate level of construction monitoring for all works to ensure design intent is achieved during construction, including but not limited to the geotechnical, civil and structural construction works.

B. The *Contractor* shall also submit all construction method statements for all works. Each method statement shall be accompanied by the relevant risk assessment and safe work procedure, all of which shall be submitted for review and acceptance by the Employer. These documents shall be submitted per the relevant Eskom Quality and Document Management procedures.

C. Quality related ITP's/QCP's shall be submitted by the *Contractor* for Employer's acceptance. The *Contractor* shall clearly indicate all necessary intervention points on the ITP/QCP that is deemed required for the works. The Employer will also indicate his\her hold and witness points on the ITP/QCP where necessary. All specified tests, individual activities and required interventions that are associated with the works to be clearly listed and described on all ITPs/QCP and should be clearly referenced/integrated with all other technical and quality documents.

D. Construction monitoring for all works shall be carried out by the *Contractor* in accordance with the Construction Regulations and SANS 10 400. The *Contractor* shall carry out sufficient inspections at appropriate times and in accordance with the approved ITP/QCP (that includes all essential Designer reviews and sign offs per associated ITP/QCP intervention points).

E. Tolerances shall be aligned to all applicable SANS standards and Eskom specifications, supplier manuals and all applicable design drawings and contract clauses.

3.4.3 Low pressure services construction requirements

3.4.3.1 HVAC

A. The *Contractor* shall supply, install, test and commission sufficiently sized Inverter split air conditioning units as indicated earlier on this document.

B. The *Contractor* shall sufficiently seal all holes opened during the installation of air conditioning units. The pipe lengths between indoor and outdoor unit shall not exceed fifty meters.

C. Drainage pipe of the air con condensate shall be installed and connected on the ground with pipe running along the wall with good workmanship. Condensate drainpipes shall not be left protruding out of the wall to drain straight to the ground from the indoor unit installed at ceiling level.

3.4.3.2 Fire Protection

A. The *Contractor* shall construct, supply, install and commission a fire detection system for the guard house. This fire detection system will be supplied by the *Contractor* based on the fire rational the Deemed to Satisfy Design in accordance with SANS 10400 and SANS 10139.

3.4.4 Electrical construction requirements

3.4.4.1 Cabling servitude, Racking and support

A. The *Contractor* shall determine the cable route from the allocated power point. Refer to the general layout 0.84/ 68281 for typical location and details.

B. *Contractor* shall comply with the requirements for control and power cables for Power Stations Standards (240-56227443)

C. The *Contractor* is to produce and install the correct size power cable to feed the main DBs of the security guard from the allocated power source (Note: Allocated power source details to be provided to *Contractor* by the Employer).

3.4.4.2 Cable Sleeve Pipes

Where cables cross under roadways, other services and where cables enter buildings, the cables shall be installed in fibre reinforced-cement pipes, earthenware, or high-density polyethylene pipes. A draw wire, 1.5 mm galvanised steel wires shall be installed in all conduits cast in concrete. The ends of all sleeves shall be sealed with a non-hardening watertight compound after the installation of cables.

3.4.4.3 Testing and Proof of Compliance For the Guard House

A. The relevant certificates and test reports shall be provided by the *Contractor* to prove compliance to the relevant specifications. If the equipment supplied has been typed tested, type test certificates for that make will be acceptable and do not have to be re-tested.

B. The equipment offered shall be identical to the type of equipment tested. In the event that components differ from the once described in the type test certificates/reports, the components shall be subjected to retesting before acceptance by the Employer.

C. In addition, the following certification will be required where applicable:

i. Electrical CoC

3.4.5 Construction constraints

Provisions should be made by the *Contractor* to clarify, address and as far possible minimise the negative impact of the risks that may arise from the following construction constraints:

A. Site and existing services

B. Weather (High temperatures and rainy season) should be sufficiently planned for by the *Contractor*, particularly for execution of concrete works.

C. Restrictions regarding working near or underneath Transmission lines should be well understood by the *Contractor* and in line with Eskom Electrical procedures and appropriate regulations.

D. *Contractor's* laydown area and its proximity to the actual construction site (i.e. along National road and an Eskom Property that is handed over to Medupi Gx) should not restrict construction works. Additionally, the *Contractor* shall adhere to the necessary Eskom HSE and Quality procedures regarding laydown areas and the management thereof.

3.4.6 Commissioning Requirements

A. The *Contractor* shall provide supervision during the erection, installation, site testing and commissioning of the Works. The supervision shall also be available during functional checks.

B. Commissioning checks for the complete system will be led by the *Contractor* in conjunction with the Employer's commissioning team.

3.4.7 Handover Requirements

The *Contractor* will provide sufficient documentation at Handover for the works designed and constructed in line with this scope document.

3.4.7.1 Design Handover Documentation

The design handover documentation shall include but not be limited to the following:

A. Operating and Maintenance Manuals

B. Submission of both the Native/CAD drawing files and PDF versions of all drawings

C. Calculation reports (including but not limited to the assumptions and calculations related to the fence design, the guard house foundation and modifications, the associated supportive structures, conservancy tank, water storage tank, plumbing, fenestration, relevant mechanical and electrical design calculations, heat loads, water pump head and pressure calculations and all other calculations deemed required per the Eskom and SANS standards)

D. Civil and Structural design calculation reports which shall include the following:

i. Design philosophy providing the following:

- Evidence of 50-year design life consideration
- Evidence that value engineering and condition assessment was completed in the selection and modification of structural system, elements, and materials in the guard house.
- Load assumptions and calculations as indicated in relevant SANS, Eskom standards and other specifications.
- Summary of structural analysis results and structural member design calculations where applicable
- Concrete crack width calculations where applicable

3.4.7.2 Construction Handover Documentation

The construction handover documentation shall include but not be limited to the following:

A. Safety Clearance Certificates

B. Material and fabrications certificates

A. Professional Engineering Certificates and professional declarations (issued by the Contractor's Professional Engineer\Technologist).

C. Data books

D. The *Contractor* shall request QA to perform completeness review of the record books /Data books prior handing over to the Employer.

E. As built documentation

F. Master document list (MDL)

G. Spares lists where applicable

H. QA Completeness review

I. KKS equipment label lists and associated certificates

J. Further Handover requirements are indicated section 2.4.8.

K. End-Phase Review reports including Pre-commissioning Reports (PCR), Handover Design Report (HDR) and Input Files, in Eskom document management templates/formats.

3.4.8 Quality Requirements

A. The *Contractor* shall be certified or demonstrate compliance to the latest version of the ISO 9001 Quality Management Systems standard and comply with the quality requirements as stated in Medupi *Contractor* Quality Specification 200-1689 and Supplier Quality Management Specification 240-105658000.

B. The *Contractor* shall implement the requirements of the latest revision of the Medupi *Contractor* Quality Specification 200-1689 in its entirety, and have the following documented information as a minimum: -

i. Project Quality Policy
ii. Project Quality Strategy
iii. Project Quality Objectives
iv. Project Quality Management Plan
v. Project Organisation Chart.
vi. Project RACI Matrix – may be split by Dept. /Phase/Discipline as required.
vii. Job Descriptions including performance requirements and measurements.
viii. Equipment and Process Criticality Ratings,
ix. Project Quality Assurance Plans – per project phase:
    - Design
    - Manufacturing, Inspection and Testing
    - Construction, Inspection and Testing
    - Commissioning and Taking-Over
x. Project Quality Control Procedures - per discipline:
    - Civil and Structural works.
    - Mechanical, Piping, Painting and Insulation works.
    - Electrical works.
    - Control and Instrumentation works.

3.4.8.1 Inspection

B. Inspection activities during manufacturing shall be managed according to the Medupi Manufacturing Inspection and Testing Procedure 200-45965.

C. Inspection activities during construction shall be managed according to the Medupi Site Quality Assurance Control and Verification Procedure 200-46362.

D. The *Contractor* shall be required to maintain inspection databases where all records of inspection are maintained as required in the Medupi Quality Specification 200-1689.

E. The *Contractor* shall provide Index, Method statement, Inspection and Test Plan (ITP) or quality control plan (QCP) for the Works to the Employer's team for review and approval before carrying out any works.
F. *Contractor* to ensure that all quality management systems are audited, and all inspections are executed in line with an approved QCP/ITP, with all the necessary and appropriately intervention points. The above mentioned also includes to all sub-*Contractors* documentation under the *Contractors* responsibility.
G. All documents shall be accepted by the Employers Team prior to any commencement of any works (Permanent or Temporary).
H. All quality procedures and verification points as per the project quality requirements or specifications shall be adhered to.
I. All quality documents and records applicable to this Scope of Works shall be submitted for record keeping.
J. The Employer shall have the right to regularly conduct inspections, assessments, audits, and surveys and perform surveillance of the *Contractor* and/or *Sub-Contractor* facilities, sites, premises, records, and documentation (including but not limited to data books) to evaluate their capability to comply with the requirements necessary to conform to contractual and QMS requirements.
K. *Contractor* audits will be conducted at planned intervals as per Quality Management System Audits Work Instruction 348-80423 by Eskom Quality to verify compliance with agreed requirements.
L. The Employer reserves the right to inspect, at reasonable times, any or all the services performed at the *Contractor* or *Sub-Contractor* premises or elsewhere. Verification by Eskom shall not absolve the *Contractor* of the responsibility to provide acceptable product and / or services, nor shall it preclude subsequent rejection by Eskom.
M. The services must comply with the agreed specifications and requirements and the applicable directives and standards set out in the Contract. Defects notified by the Employer shall be remedied by the *Contractor* upon demand by the Employer without undue delay and at no extra cost. The *Contractor* shall continuously monitor and identify non-conformances, both internal and external, as signals of opportunities for improvement making process and other relevant changes to prevent recurrence.
N. The Employer reserves the right to assess and measure, during the existence of the agreement the qualifications, capability, and competence of the key staff (assigned personnel) in relation to the scope of work and to interview any / all of them to confirm the Quality evaluation.

3.4.8.2 Data Books

A. The *Contractor* shall develop and implement a system for collation of quality verification records, including change management records, Manufacturing, Construction and Commissioning Record Books (Data Books) as specified in the Medupi Quality Specification 200-1689.
B. Data Books shall be maintained by the *Contractor* to substantiate conformance to product specifications and requirements. All records shall be safely stored (easily retrievable) following the final completion of the works at takeover. These records shall include as a minimum: -
    i. Quality Management documentation as specified in the Medupi Quality Specification 200-1689
    ii. Safety clearances (to be granted prior commissioning)
    iii. Test certificates
    iv. Construction and as-built drawings
    v. Statutory certification
    vi. Commissioning Documentation.

C. All manufacturing and construction data books shall be completed and approved when the *Contractor* apply for final inspection at construction completion.

D. At takeover application, all manufacturing, construction, and commissioning data books shall be completed and approved and handed over to the Employer.

E. *Contractor* shall review data book progressively during 30%, 70% and 100% of the completed work and provide valid comments in the form of comment sheet per each stage of review to the Employer prior Employer's review.

F. No data book shall be reviewed by the Employer without *Contractors* reviewed evidence and comment sheet Indicating first review second review with addressed comments and final review.

G. The *Contractor* shall develop Data book Register and maintain for the duration of the project. The said Procedure shall define format, content and structure of Record books and process of compilation and handover and shall as a minimum conform to the following:

i. Manufacturing - Prepared for each individual "Purchase Order, Scope of work and employer requirements". Only manufacturing records per discipline e.g. Civil, Structural steel, Mechanical, Electrical, C&I works etc.
ii. Construction/Erection - Prepared for Each Discipline as in bullet 1, each geographical area for civil works and for systems/sub- systems for mechanical and electrical systems including C&I separately: Commissioning - prepared for each commissioned system.
iii. Note: Record books shall not be combined on Data Dossier. Manufacturing, Construction/Erection and Commissioning shall be separated.
iv. The *Contractor* need not to include documents and drawings etc. that have been approved by the Employer which are included in SPO and shall instead provide and include an index of such documents in the Record Books on the basis that the originals are in SPO and traceable via the "Index".
v. Record Book shall be written in English or provided with an English translation
vi. The index of all Record Books shall be submitted to the Employer for approval.
vii. As the work progresses, *Contractor* shall compile Record Books progressively with the original material certificates, installation, erection, testing, inspection and change management documents, and shall continuously verify and accurately update via weekly review and spot checking against inspection performed that week.
viii. *Contractor* shall report the status of Record Book compilation progress at Weekly Progress / Quality Meetings together with the Data book Register.
ix. Record Books shall be endorsed by stamp, date and signature of the *Contractor* and the Employer signifying completion and accuracy when complete.
x. Each Record Book shall have cover sheet (With a Sleeve pocket to insert a cover sheet) of A4 size paper and a spine label on which is printed the following: -
xi. Title of Document, *Contractor's* company logo, Unique number/SPO, Name of Project, *Contractors'* Job Code, *Contractor* Document number, Eskom Document Number, System KKS number, System Description, Document type "Manufacturing or Construction or commissioning", *Contractor's* number, Name of *Contractor*, Volume Numbering (1 of …. or 1/10) xv. Address of *Contractor*, Column for signature by *Contractor* Representative and Employer's representative
    - All Manufacturing Record books shall be Completed, Approved, and handed over to the Employer not later than (7) Seven days after Delivery Inspection on site Prior Installation/Construction Phase.
    - All Construction Record books shall be Completed, Approved Safety Cleared, and handed over to the Employer not later than (7) Seven days after Final inspection (AFI) Prior Commissioning Phase
    - For other civil / Earthwork, All Construction Record books shall be Complete, Approved and handed over to the Employer prior taking over section of works.
    - All Commissioning Record books, Operating, maintenance and training manuals shall be Completed, Approved, and handed over to Eskom not later than (7) Seven days after the last test prior taking over of completed works (TOC)

- Construction Record Book shall be compiled in A4 size with 4-post binders in loose-leaf form with numbered pages such as, Page 1 of 10 or 1/10 whichever sequential counting method that clearly identifies page numbering.
- Summary table of each volume's contents shall appear in all volumes. Volumes are to be numbered e.g. 1 of 3, 2 of 3, 3 of 3 etc. both on spine and front cover.
- The binders are to be robust and not subject to distortion by impact during shipping. The binders shall not be over filled and contain only a suitable number of documents to enable convenient handling.
- Contents shall be sectionalized and separated by properly labelled dividers
- Contents shall be placed in the relevant sections and sections shall be separated by properly labelled section dividers/separator sheets easy referencing with going through the content.
- All section dividers/separator sheets shall be made of card and shall bear the Section Identifier - 1, 2.

xii. The contents of each section, e.g. Section 1, Section 2, etc., of the Record Book shall be placed directly behind the relevant section dividers/separator sheets and each document shall be clearly marked with the following:

xiii. Relevant section letter, Page number - every document shall receive a page number, In each section the page numbers shall run consecutively.

H. Record Books shall contain as a minimum: All material Reports and Certificates, All Inspection Reports, All Test Reports, All Release Notes, All Change Management Reports, All drawings or an index of drawings identifying drawing No. and revision status, All Defect Reports, All Procedures or an Index of Procedures, All Inspection and Test Plans if used as a Quality Verification Record or an Index of Inspection and Test Plans if used as an assurance and control document, All Drawings or an Index of Drawings.

3.4.8.3 Statutory Records

A. The *Contractor* shall submit a statutory compliance file containing minimum applicable documents as follows: -

i. Electrical Equipment
ii. Statutory register and COCs
iii. Civil Structure
iv. Statutory register, Professional Engineering Certificates, Glazing Certificates, Sewer Certificates (subjected to exemption)
v. Pressurized Equipment
vi. Statutory register, Certificate of Conformance for PER equipment, Inspection and Hydraulic Pressure Test Certificate for PER equipment and Pre commissioning Certificates.
vii. Permanent KKS certificates (no temporary labels to be allowed at take-over)

3.4.8.4 Handing over of Record books/Data Books by *Contractor*

A. QA Completeness review
B. After addressing all comments given to the *Contractor* during QC 100% review of data books by the Employer, the *Contractor* shall request QA review via ITN system to perform completeness review of the record books
C. The Employer's Quality Assurance team will also make reference to the data book checklist (200-616427) for compliance of format and lay out of the Record Book / Data Book.

3.4.8.5 Storage and Preservation

A. T
he *Contractor* shall implement storage and preservation requirements in accordance with the Employer Storage and Preservation Procedure (348-860843)

3.4.9 Documentation Requirements

A. To maintain proper management of documentation on the Medupi Project, the *Contractor* is required to adhere to all the Document Management standards listed in the normative and informative section of this SOW and contract.

B. The *Contractor* shall manage the documentation in line with the Eskom Documentation Management governance documents also indicated in the normative and informative section of this SoW and the contract.

C. All documents shall be submitted to the Eskom Documentation Centre in a form of a transmittal, the submission address will be advised by the Employer.

D. The *Contractor* shall submit Master Document List (MDL) on a monthly frequency, with document titles, document revision, status, transmittal details and project phase. The *Contractor* shall maintain this MDL through the life cycle of the Contract.

E. Documents and drawings shall indicate the *Employer's* drawing number as allocated by the *Employer*. The *Contractor* may have his own internal document or drawing number on the document or drawing, but where reference is made among documents or drawings, the *Employer's* number shall be used.

F. All drawings shall indicate purpose for issuing (Issued for Information, Construction or As-builts) as applicable and signed off by the professional registered engineer.

G. All drawings shall undergo submission per the relevant Eskom Design and Project Change Management processes/procedures.

H. All design related documentation shall be dated and signed off by the professional registered engineer.

I. General Arrangement drawings shall be completely dimensioned, showing as a minimum, the following:

i. Arrangement of rooms in guard house.
ii. Relevant front view, sections and other elevation views.
iii. Required clearances for opening doors (includes emergency doors) .
iv. Conduit or cable entrance locations for bottom entrance.
v. Cable racking layouts.
vi. Incoming and Outgoing cable termination positions.
vii. Earthing connections.
viii. Details and position of the holding down bolts.
ix. Floor layout
x. All structural arrangements drawing
xi. Fire layout drawing with emergency escape route

J. Schematic Drawings shall as a minimum show the following:

i. All protection and control devices and their contacts, each of which shall be labelled with its correct ANSI device function number, or reference.
ii. Device terminal numbers, terminal block numbers and terminal numbers.
iii. All internal interconnections, bus wiring, inter panel wiring and connections to external equipment.
iv. All control and protection switches.
v. Power supply connection.

K. Wiring Diagrams
   i. Detailed wiring diagrams shall be drawn to show as a minimum the following:
   ii. Approximate physical locations of all items in each control panel on a panel arrangement drawing.
   iii. All interconnecting wiring between control panels.
   iv. Identification of all terminals, terminal blocks, and wires by numbers.
   v. Clear identification, by some distinguishing method, of all wiring which will be installed by the site installation *Contractor*. This shall include, but not be limited to, trip circuits from remote devices and auxiliary contacts to remote devices.
   vi. This shall also include spare circuits which shall be wired to terminal blocks for future use.

3.4.10 Scope exclusions

The *Contractor* shall note the following exclusions to the scope of works:

A. No furniture to be procured for the guard house. Medupi Gx shall provide the office furniture.
B. No kitchen appliances to be procured for the guard house. Medupi Gx shall provide the kitchen with a fridge, microwave, water cooler.
C. Potable water supply to the potable water storage tank shall be provided by Medupi Gx.
D. Post-handover the maintenance and periodic emptying of the conservancy tank shall be executed by Medupi Gx.

4 Additional Information related to mandatory requirements

4.1.1 Professional accountability:

A. The *Contractor* shall design, construct, monitor and certify all works in accordance with this SoW and all associated regulations, standards and procedures.
B. The *Contractor* shall ensure all necessary documents and works including but not limited to the listed items below are approved by the accountable professional and submitted to Employer:

   i. Design calculations, reports, drawings and assumptions for all design and construction works
   ii. Manufacturing, Testing and Fabrication records
   iii. Construction documentation and Construction monitoring records
   iv. Commissioning documents
   v. Handover documents
   vi. Declarations (including but not limited to geotechnical and competency form)
   vii. Certificates (including but not limited to PEC, glazing, plumbing and CoC's)

4.1.2 *Contractor's* considerations, Provisions and Deliverables

A. Laydown Area:

   i. Location of the laydown area is Raw water Pumpstation.
   ii. The *Contractor* shall make provision for suppling their own amenities, equipment and connection to services for the laydown area on site. The laydown area shall be provided by the Employer; however provisions shall also include but not be limited to the *Contractor* ensuring their own team have laptops, all office and IT equipment, PPE and other supplies to perform the works.

B. Site Preparations:

   i. Clearing of vegetation in and around the immediate vicinity of the fences (fences at Raw Water Pumpstation, around the guard house and along newly erected fence along Kuipersbuld road).

C. Fence:

i. Design, fabrication, supply and installation and construction of the fence along Kuipersbuld with necessary vehicle and pedestrian fence access gates.

ii. Supply and installation of Padlocks and chains for the fence gates and lockable LPS structures.

D. Guard house;

i. Performing the necessary geotechnical investigations, ground preparations and design and construction the guard house foundations and supportive structures for the water tank and conservancy tank, as well as the concrete testing.

i. Provision for a site visit to conduct inspection and condition assessment of free issued cabin/parkhome, Collection of free issued cabin/parkhome from Eskom property, transporting of the cabin/parkhome to the Raw water pumpstation, modification of the cabin/parkhome into a guard house with kitchen, sitting area and toilet and installation of a water storage tank, conservancy tank and supportive structures, as well as the required services/fixtures and amenities guard house for the Raw Water Pumpstation.

E. Construction monitoring and documentation:

i. The *Contractor* shall perform the necessary level of construction monitoring to ensure design intent is achieved and submit all end of job documentation to the Employer.

ii. As mentioned in previous sections of this document the end of job documents includes but is not limited to the following:

- Designer review and verification records
- Data pack (including all relevant H1, H2 and H3 databooks)
- Surveys and As built (surveys and drawings)
- Geotechnical laboratory testing and results
- Handover Completion Package of Structures
- Construction Completion Reports
- Corrective Action report (if required)
- End of job Certificates (includes but not limited to those listed in previous section in tis document, all CoC's and the final Professional Engineering Certificate)

F. The Contractor shall ensure that all declarations, certificates and end of job documentation clearly state that all works were designed, installed, executed and monitored in compliance to ECSA code of conduct and Construction regulations, as well as all relevant Eskom specifications/procedures, all relevant design and construction SANS specification. as.

5 Appendix A

A. Photographs of the Kuipersbuld and Raw Water Pumpstation area

Plant and Materials standards and workmanship

Investigation, survey and Site clearance

Refer to the Scope Document Number 348-9995116

Building works
Refer to the Scope Document Number 348-9995116

Civil engineering and structural works

Refer to the Scope Document Number 348-9995116

Electrical & mechanical engineering works

Refer to the Scope Document Number 348-9995116

Process control and IT works

Refer to the Scope Document Number 348-9995116

Other [as required]

List of Equipment
Refer to the Scope Document Number 348-9995116

List of Standards and Specifications
Refer to the Scope Document Number 348-9995116

PART C4: SITE INFORMATION

Core clause 11.2(16) states

"Site Information is information which:
- describes the Site and its surroundings and
- Is in the documents which the Contract Data states it is in."

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

General description

The Medupi Power Station Project in Lephalale is a green-fields coal-fired power plant comprising of six units providing a total of 4 800MW on full capacity. The Power station is situated approximately 20Kms from the town of Lephalale (Elliras), along the Steenbokpan Road. The works takes place within the boundaries of Medupi Power station.

Medupi Power Station Project Site is designated as a National Key Point in terms of the National Key Point Act 102 of 1980. Eskom is required to comply with the requirements of paragraph 5 of the Minimum Information Security Standard (MISS) that seeks to implement a criminal check/ screening process which intends to identify individuals whom might through their actions and/ or behaviour, could pose a risk to the operation of Eskom Holdings SCC Ltd.

Access to site shall be in line with the Medupi Power Station's access procedure. As such, the Contractor is hereby instructed to ensure that the Contractor's employees on Site are screened by means of criminal clearance verifications with the South African Police Service (SAPS) Criminal Record Centre (CRC) or accredited supplier linked to SAPS AFIS system and provide proof to Eskom security delegated team before access to Site is granted.

The screening process aims at ensuring a certain level of protection to the workforce, assets and information in accordance with Minimum Information Security Standard (MISS) of 1996, National Key Point Act 102 of 1980, National Strategic Intelligence Act 39 of 1994 and Protection of Critical Infrastructure Protection Act 8 of 2019.

The *Contractor* shall be required to make an application to enter site for the duration of the contract, including the warranty and defect period. A permit shall only be issued once the *Contractor* and his or her employees have attended the safety induction and has undergone medical checks. The Contractor's new applications for Site access are required to produce the SAPS Clearance Certificate with immediate effect. The Contractor's personnel who are already granted access to Site are required to comply with this instruction by no later than 01 January 2023. The screening process must be repeated every 12 months or 6 months depending on the risk rating of the Contractor's employee.

The *Contractor* makes his/her own assessment of and allows in his/her rates for those access problems that may be encountered. No extra payment or claim of any kind is allowed on account of difficulties of access to the *works*, or for the requirement of working adjacent to or in the same area as others. The *Contractor* shall have no claim against the *Employer* in respect of delay at the security main gate.

Note that the speed limit on the site is 40 Km/h. The vehicle permits of any persons contravening any traffic act on site shall be cancelled.

The *Contractor* complies with the Medupi Power Site Regulations, a copy of which is available for perusal at the *Project Manager's* offices. Any subject within the authority of the *Project Manager* may be addressed by a Site Regulation.

Before work starts on site, an inaugural meeting is held with the *Contractor* and the *Project Manager* to explain all requirements of the Site Regulations.

The *Contractor* allocates staff to be trained and authorised as Authorised Supervisor or Responsible Persons according to *Employer's* Plant Safety Regulations. These Authorised Supervisor or Responsible Persons are available on site as and when required to take out permits to work.

At his own cost the *Contractor* provides his/her own accommodation and transport for all his/her employees engaged in the execution of the works. This includes the needs of his/her *sub-contractors*. No accommodation is available at Medupi Power Station.

The *Contractor* always provides security necessary for the protection of the works until the completion of the whole of the works. No firearms, weapons, alcohol, illegal substances and cameras are permitted on site. Any person suspected of being under the influence of alcohol is tested and if proved positive, is refused entry to the security area.

The *Contractor* implements a safety plan and maintains the safety system until the completion of the whole of the works. The plan, will as a minimum, contain PPE information, written safe working procedures, job specific risk assessments, safety meetings, etc. The plan will be to the *Employer*'s satisfaction and will be accepted prior to the commencement of any work. Contractor is to provide additional lighting where lighting is not sufficient in working areas.

All equipment coming to site will be inspected by *the Employer's* Safety Department.

The *Contractor* will be subject to periodic audits by the *Employer* in order to ensure compliance with the plan. Any deviations will be corrected to the *Employer's* satisfaction.

The *Project Manager* has the right to stop the *Contractor*'s work activities which, in the opinion of *Project Manager*, is un-safe. The *Contractor* may only continue with work activities when all safety deficiencies have been corrected to the *Project Manager's* satisfaction. The *Contractor* shall have no claim against the *Employer* in respect of delay due to the above.

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

The works shall be executed on the southern side of the Kuipersbuild road, within the Eskom property of the already constructed Raw Water Pumpstation fence. All interfaces are as stated in the Specification document 348-10017892.

Any equipment, or appliances, used by the *Contractor* is to conform to the applicable OHS Act safety standards and is maintained in a safe and proper working condition. The *Project Manager* has the right to stop the Contractor's use of any equipment which, in the opinion of *Project Manager*, does not conform to the foregoing.

Loading and off-loading and material handling equipment is not available on site and if required, is to be provided by the Contractor.