NEC3 Engineering & Construction Contract

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

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

for DESIGN, MANUFACTURE, PROCURE, INSTALLATION, AND COMMISSIONING OF DUVHA POWER STATION EFFLUENT SYSTEM UPGRADE FOR A PERIOD OF 22 (TWENTY-TWO) MONTHS

CONTRACT No.

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 into a contract for the procurement of:

DESIGN, MANUFACTURE, PROCURE, INSTALLATION, AND COMMISSIONING OF DUVHA POWER STATION EFFLUENT SYSTEM UPGRADE FOR A PERIOD OF 22 (TWENTY-TWO) MONTHS

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

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

Options A	The offered total of the Prices exclusive of VAT is	**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				

[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)	**Lourence Chauke**			
Capacity	**General Manager**			
for the Employer	**Eskom Holdings SOC Ltd** **Duvha Power Station** **P O Box 2199** **WITBANK** **1035**			
Name & signature of witness	*(Insert name and address of organisation)*		Date	

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

DESIGN, MANUFACTURE, PROCURE, INSTALLATION, AND COMMISSIONING OF DUVHA POWER STATION EFFLUENT SYSTEM UPGRADE FOR A PERIOD OF 22 (TWENTY-TWO) MONTHS

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.

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No.	Subject	Details
1		
2		
3		
4		
5		
6		
7		

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

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

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

C1.2 ECC3 Contract Data

Part one - Data provided by the *Employer*

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

Clause	Statement	Data
1	**General**	
	The *conditions of contract* are the core clauses and the clauses for main Option	
•		**A: Priced contract with activity schedule**
	dispute resolution Option	**W1: Dispute resolution procedure**
	and secondary Options	
		X1: Price adjustment for inflation
		X2 Changes in the law
		X5: Sectional Completion
		X7: Delay damages
		X15: Limitation of *Contractor's* liability for design to reasonable skill and care
		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)	**TBA**
	Address	**Duvha Power Station PO Box 2199 Witbank 1035**
	Tel	**TBA**
	Fax	**N/A**

	e-mail	**BaseN@eskom.co.za**		
10.1	The *Supervisor* is: (Name)	**Mapule Mogashoa**		
	Address	**Duvha Power Station PO Box 2199 Witbank 1035**		
	Tel No.	**+27 13 690 0283**		
	Fax No.	**N/A**		
	e-mail	**MogashMC@eskom.co.za**		
11.2(13)	The *works* are	**Design, manufacture, Procure, Installation and Commission of Effluent System Upgrade.**		
11.2(14)	The following matters will be included in the Risk Register	**1. Scope change during execution. 2. Muscles constrains due to handling of heavy equipment. 3. Snake and insect bit 4. Slippery due to wet floor. 5. Material theft 6. Chemical inhalation**		
11.2(15)	The *boundaries of the site* are	**Duvha Power Station Water Treatment Plan**		
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	**3 (three) days**		
2	**The *Contractor's* main responsibilities**	**Data required by this section of the core clauses is provided by the *Contractor* in Part 2 and terms in italics used in this section are identified elsewhere in this Contract Data.**		
3	**Time**			
11.2(3)	The *completion date* for the whole of the *works* is	**30 October 2027 (Subject to change)**		
11.2(9)	The *key date*s and the *condition*s to be met are:	***Condition* to be met**		***key date***
		1	**Kick off meeting**	**3 days after contract awarded**
		2	**Safety file approval**	**7 days after contract awarded.**

		3	**Site Establishment.**	**7 days after safety file approval.**
		4	**Pre-Design approval.**	**As per the accepted program and approved milestone.**
		5	**Final detail design approval.**	**As per the accepted program and approved milestone.**
		6	**QCP, Program & Methodology.**	**7 days after final detail design approval.**
		7	**Procuring/ Fabrication of material.**	**5 days after final detail design approval.**
		8	**Program revision.**	**A revised program required every 4th week of the month.**
		9	**Execution as per the scope.**	**As per the accepted program and approved milestone.**
		10	**Testing and commissioning**	**As per the accepted program and approved milestone.**
		11	**De-establishment and handover**	**As per the accepted program and approved milestone.**
30.1	The *access dates* are:	**Part of the Site**		**Date**
		1	**Duvha Power Station(WTP)**	**After safety file approval and issuing of access certificate by PM.**
31.1	The *Contractor* is to submit a first programme for acceptance within	**1 (one) weeks of the Contract Date.**		
31.2	The *starting date* is	**TBA**		
32.2	The *Contractor* submits revised programmes at intervals no longer than	**3rd (three) weeks.**		
35.1	The *Employer* is not willing to take over the *works* before the Completion Date.	[No data needed if this statement is included]		
4	**Testing and Defects**			
42.2	The *defects date* is	**52 weeks after completion of the whole of the works.**		

43.2	The *defect correction period* is	**4 (Four) weeks**
5	**Payment**	
50.1	The *assessment interval* is	**between the 21-25 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	**4 (four) weeks.**
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:	**Witbank**
	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	**Duvha Power Station**

	The *weather data* are the records of past *weather measurements* for each calendar month which were recorded at:	**Witbank**
	and which are available from:	**the South African Weather Bureau and included in Annexure A to this Contract Data provided by the *Employer***
60.1(13)	Assumed values for the ten year return *weather data* for each *weather measurement* for each calendar month are:	**As stated in Annexure A to this Contract Data provided by the *Employer*.** **Note: If this arrangement is used, delete the rows above for 60.1(13) and delete this note.**
7	**Title**	**There is no reference to Contract Data in this section of the core clauses and terms in italics used in this section are identified elsewhere in this Contract Data.**
8	**Risks and insurance**	
80.1	These are additional *Employer*'s risks	**1. Underground cables or piping not shown on the existing drawing or detected during final land survey.**
		2. Loss of material during execution e.g. contractors' material ect.
		3. Damage of existing infrastructure during execution. **4.`Availability of an AP (Appointed Person) /RP (Responsible Person) Safety risk**
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).**
	Address	**[●]**
	Tel No.	**[●]**

	Fax No.	**[•]**		
	e-mail	**[•]**		
W1.2(3)	The *Adjudicator nominating body* is:	**the Chairman of ICE-SA a joint Division of the South African Institution of Civil Engineering and the London Institution of Civil Engineers. (See www.ice-sa.org.za) or its successor body.**		
W1.4(2)	The *tribunal* is:	**arbitration.**		
W1.4(5)	The *arbitration procedure* is	**the latest edition of Rules for the Conduct of Arbitrations published by The Association of Arbitrators (Southern Africa) or its successor body.**		
	The place where arbitration is to be held is	**Witbaml South Africa**		
	The person or organisation who will choose an arbitrator - if the Parties cannot agree a choice or - if the arbitration procedure does not state who selects an arbitrator, is	**the Chairman for the time being or his nominee of the Association of Arbitrators (Southern Africa) or its successor body.**		
12	**Data for secondary Option clauses**			
X1	**Price adjustment for inflation**			
X1.1(a)	The *base date* for indices is	**TBA**		
X1.1(c)	The proportions used to calculate the Price Adjustment Factor are:	**proportion**	**linked to index for**	**Index prepared by**
		0. 20	**Labour**	**Seifsa Table C3, All hourly paid employees and CPI, for salary employees**
		0. 10	**Transport**	**Seifsa Table L2(A), Road Freight**
		0. 40	**Material**	**Seifsa Table M-6, Wire of iron or steel**
		0. 10	**Material**	**Circular Hollow Section**
		0. 05	**Design Professionals**	**Circular Hollow Section**
		0.15	**non-adjustable**	
	Total	**1.00**		

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	**Finalise QCP and methodology**	**As per accepted programme**
		2	**Detail Design submission**	**As per accepted programme**
		3	**Procuring and delivery of material**	**As per accepted programme**
		4	**Execution Phase**	**As per accepted programme**
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	**Finalise QCP and methodology**	**R 5 000 per day up to limit of 10% of the contact value**
		2	**Detail Design submission**	**R 5 000 per day up to limit of 10% of the contact value**
		3	**Procuring of material**	**R 20 000 per day up to limit of 10% of the contact value**
		4	**Execution Phase**	**R 20 000 per day up to limit of 10% of the contact value**
	Remainder of the *works*			**R5 000 per day up to limit of 10%**

				of the contact value
	The total delay damages payable by the *Contractor* does not exceed:	**0.10% of the total contract value per week limited to 10% of the contract value.**		
X15	**Limitation of the *Contractor*'s liability for his design to reasonable skill & care**	**There is no reference to Contract Data in this Option and terms in italics are identified elsewhere in this Contract Data.**		
X16	**Retention (not used with Option F)**			
	The *retention percentage* is	**10% of the contract value amount**		
X17	**Low performance damages**			
X17.1	The amounts for low performance damages are:	**Amount**	**Performance level**	
		R [•]	**for [•]**	
		R [•]	**for [•]**	
		R [•]	**for [•]**	
		R [•]	**for [•]**	
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) 1(one) years after the *defects date* for latent Defects and** **(ii) the date on which the liability in question prescribes in accordance with the Prescription Act No. 68 of 1969 (as amended or in terms of any replacement legislation) for any other matter.** **A latent Defect is a Defect which would not have been discovered on reasonable inspection by the *Employer* or the *Supervisor* before the *defects date*, without requiring any inspection not ordinarily carried out by the *Employer* or the *Supervisor* during that period. If the *Employer* or the *Supervisor* do undertake any inspection over and above the reasonable inspection, this does not place a greater responsibility on the *Employer* or the *Supervisor* to have discovered the Defect.**
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	Delete from the last sentence in core clause 61.3, "unless the *Project Manager* should have notified the event to the *Contractor* but did not".
Z9	***Employer's* limitation of liability**
Z9.1	The *Employer's* liability to the *Contractor* for the *Contractor's* indirect or consequential loss is limited to R0.00 (zero Rand)
Z9.2	The *Contractor*'s entitlement under the indemnity in 83.1 is provided for in 60.1(14) and the *Employer*'s liability under the indemnity is limited.
Z10	**Termination: Add to core clause 91.1, at the second main bullet point, fourth sub-bullet point, after the words "against it":**
Z10.1	or had a business rescue order granted against it.

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

Z12	**Ethics**
For the purposes of this Z-clause, the following definitions apply:	
Affected Party	means, as the context requires, any party, irrespective of whether it is the *Contractor* or a third party, such party's employees, agents, or Subcontractors or Subcontractor's employees, or any one or more of all of these parties' relatives or friends,
Coercive Action	means to harm or threaten to harm, directly or indirectly, an Affected Party or the property of an Affected Party, or to otherwise influence or attempt to influence an Affected Party to act unlawfully or illegally,
Collusive Action	means where two or more parties co-operate to achieve an unlawful or illegal purpose, including to influence an Affected Party to act unlawfully or illegally,
Committing Party	means, as the context requires, the *Contractor*, or any member thereof in the case of a joint venture, or its employees, agents, or Subcontractor or the Subcontractor's employees,
Corrupt Action	means the offering, giving, taking, or soliciting, directly or indirectly, of a good or service to unlawfully or illegally influence the actions of an Affected Party,
Fraudulent Action	means any unlawfully or illegally intentional act or omission that misleads, or attempts to mislead, an Affected Party, in order to obtain a financial or other benefit or to avoid an obligation or incurring an obligation,
Obstructive Action	means a Committing Party unlawfully or illegally destroying, falsifying, altering or concealing information or making false statements to materially impede an investigation into allegations of Prohibited Action, and
Prohibited Action	means any one or more of a Coercive Action, Collusive Action Corrupt Action, Fraudulent Action or Obstructive Action.
Z12.1	A Committing Party may not take any Prohibited Action during the course of the procurement of this contract or in execution thereof.
Z12.2	The *Employer* may terminate the *Contractor*'s obligation to Provide the Services if a Committing Party has taken such Prohibited Action and the *Contractor* did not take timely and appropriate action to prevent or remedy the situation, without limiting any other rights or remedies the *Employer* has. It is not required that the Committing Party had to have been found guilty, in court or in any other similar process, of such Prohibited Action before the *Employer* can terminate the *Contractor*'s obligation to Provide the Services for this reason.
Z12.3	If the *Employer* terminates the *Contractor*'s obligation to Provide the Services for this reason, the amounts due on termination are those intended in core clauses 92.1 and 92.2.
Z12.4	A Committing Party co-operates fully with any investigation pursuant to alleged Prohibited Action. Where the *Employer* does not have a contractual bond with the Committing Party, the *Contractor* ensures that the Committing Party co-operates fully with an investigation.

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

Insurance cover **84**

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

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

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

INSURANCE TABLE A

Insurance against	Minimum amount of cover or minim 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 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 Contract Date, where covered by the *Employer*'s insurance Other property The replacement cost Bodily injury to or death of a person The amount required by applicable l
Liability for death of or bodily injury to employees of the *Contractor* arising out of and in the course of their employment in connection with this contract	The amount required by the applicab law

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

INSURANCE TABLE B

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

Z14	**Nuclear Liability**
Z14.1	The *Employer* is the operator of the Koeberg Nuclear Power Station (KNPS), a nuclear installation, as designated by the National Nuclear Regulator of the Republic of South Africa, and is the holder of a nuclear licence in respect of the KNPS.
Z14.2	The *Employer* is solely responsible for and indemnifies the *Contractor* or any other person against any and all liabilities which the *Contractor* or any person may incur arising out of or resulting from nuclear damage, as defined in Act 47 of 1999, save to the extent that any liabilities are incurred due to the unlawful intent of the *Contractor* or any other person or the presence of the *Contractor* or that person or any property of the *Contractor* or such person at or in the KNPS or on the KNPS site, without the permission of the *Employer* or of a person acting on behalf of the *Employer*.
Z14.3	Subject to clause Z14.4 below, the *Employer* waives all rights of recourse, arising from the aforesaid, save to the extent that any claims arise or liability is incurred due or attributable to the unlawful intent of the *Contractor* or any other person, or the presence of the *Contractor* or that person or any property of the *Contractor* or such person at or in the KNPS or on the KNPS site, without the permission of the *Employer* or of a person acting on behalf of the *Employer*.
Z14.4	The *Employer* does not waive its rights provided for in section 30 (7) of Act 47 of 1999, or any replacement section dealing with the same subject matter.
Z14.5	The protection afforded by the provisions hereof shall be in effect until the KNPS is decommissioned.
Z15	**Asbestos**
For the purposes of this Z-clause, the following definitions apply:	
AAIA	means approved asbestos inspection authority.

ACM	means asbestos containing materials.
AL	means action level, i.e. a level of 50% of the OEL, i.e. 0.1 regulated asbestos fibres per ml of air measured over a 4 hour period. The value at which proactive actions is required in order to control asbestos exposure to prevent exceeding the OEL.
Ambient Air	means breathable air in area of work with specific reference to breathing zone, which is defined to be a virtual area within a radius of approximately 30cm from the nose inlet.
Compliance Monitoring	means compliance sampling used to assess whether or not the personal exposure of workers to regulated asbestos fibres is in compliance with the Standard's requirements for safe processing, handling, storing, disposal and phase-out of asbestos and asbestos containing material, equipment and articles.
OEL	means occupational exposure limit.
Parallel Measurements	means measurements performed in parallel, yet separately, to existing measurements to verify validity of results.
Safe Levels	means airborne asbestos exposure levels conforming to the Standard's requirements for safe processing, handling, storing, disposal and phase-out of asbestos and asbestos containing material, equipment and articles.
Standard	means the *Employer*'s Asbestos Standard 32-303: Requirements for Safe Processing, Handling, Storing, Disposal and Phase-out of Asbestos and Asbestos Containing Material, Equipment and Articles.
SANAS	means the South African National Accreditation System.
TWA	means the average exposure, within a given workplace, to airborne asbestos fibres, normalised to the baseline of a 4 hour continuous period, also applicable to short term exposures, i.e. 10-minute TWA.

Z15.1	The *Employer* ensures that the Ambient Air in the area where the *Contractor* will Provide the Services conforms to the acceptable prescribed South African standard for asbestos, as per the regulations published in GNR 155 of 10 February 2002, under the Occupational Health and Safety Act, 1993 (Act 85 of 1993) ("Asbestos Regulations"). The OEL for asbestos is 0.2 regulated asbestos fibres per millilitre of air as a 4-hour TWA, averaged over any continuous period of four hours, and the short term exposure limit of 0.6 regulated asbestos fibres per millilitre of air as a 10-minute TWA, averaged over any 10 minutes, measured in accordance with HSG248 and monitored according to HSG173 and OESSM.
Z15.2	Upon written request by the *Contractor*, the *Employer* certifies that these conditions prevail. All measurements and reporting are effected by an independent, competent, and certified occupational hygiene inspection body, i.e. a SANAS accredited and Department of Employment and Labour approved AAIA. The *Contractor* may perform Parallel Measurements and related control measures at the *Contractor*'s expense. For the purposes of compliance the results generated from Parallel Measurements are evaluated only against South African statutory limits as detailed in clause Z15.1. Control measures conform to the requirements stipulated in the AAIA-approved asbestos work plan.
Z15.3	The *Employer* manages asbestos and ACM according to the Standard.
Z15.4	In the event that any asbestos is identified while Providing the Services, a risk assessment is conducted and if so required, with reference to possible exposure to an airborne concentration of above the AL for asbestos, immediate control measures are implemented and relevant air monitoring conducted in order to declare the area safe.

Z15.5	The *Contractor*'s personnel are entitled to stop working and leave the contaminated area forthwith until such time that the area of concern is declared safe by either Compliance Monitoring or an AAIA approved control measure intervention, for example, per the emergency asbestos work plan, if applicable.
Z15.6	The *Contractor* continues to Provide the Services, without additional control measures presented, on presentation of Safe Levels. The contractually agreed dates to Provide the Services, including the Completion Date, are adjusted accordingly. The contractually agreed dates are extended by the notification periods required by regulations 3 and 21 of the Asbestos Regulations, 2001.
Z15.7	Any removal and disposal of asbestos, asbestos containing materials and waste, is done by a registered asbestos contractor, instructed by the *Employer* at the *Employer*'s expense, and conducted in line with South African legislation.

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

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

	Weather measurement				
Month	Average Rainfall (mm)	Average Number of days with rainfall	Absolute High [Low] temperature (C)	Average midday High [Low] temperature (C)	Month
January	138	11	34 [5]	25 [13]	January
February	89	7	34 [8]	25 [13]	February
March	75	7	33 [5]	24 [12]	March
April	52	5	29 [1]	23 [10]	April
May	9	2	26 [-6]	20 [6]	May
June	23	2	24 [-3]	18 [4]	June
July	6	1	25 [-5]	18 [3]	July
August	11	2	28 [-6]	21 [5]	August
September	25	3	31 [-2]	24 [8]	September
October	96	8	33 [0]	25 [10]	October
November	120	10	33 [-2]	25 [11]	November
December	159	10	31 [0]	25 [13]	December

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

C1.2 Contract Data

Part two - Data provided by the *Contractor*

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	
	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)	The *activity schedule* is in			
11.2(30)	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	**Category of employee**	**Hourly rate**	
	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			
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:			

PART 2: PRICING DATA
ECC3 Option A

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

C2.1 Pricing assumptions: Option A

How work is priced and assessed for payment

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

Identified and defined terms 11 11.2 (20) The Activity Schedule is the *activity schedule* unless later changed in accordance with this contract.

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

- each group of completed activities and
- each completed activity which is not in a group.

A completed activity is one which is without Defects which would either delay or be covered by immediately following work.

(30) The Prices are the lump sum prices for each of the activities on the Activity Schedule unless later changed in accordance with this contract.

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

Function of the Activity Schedule

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

Link to the programme

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

Preparing the *activity schedule*

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

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

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

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

An activity schedule could have the following format:

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

C2.2 the *activity schedule*

Use this page as a cover page to the *Contractor*'s *activity schedule*.

Section 1 : Pricing Schedule						
				BOQ		
ITEM	**PAY REF**	**DESCRIPTION**	**UNIT**	**QTY**	**RATE (R)**	**AMOUNT (R)**
	SANS 1200 A	**NOTE** **The Contractor shall design, manufacture, procure, install and commission all Mechanical, Civil, Electrical, Control & Instrumentation Plant required for the works as defined in this technical specification.**				
1		**<u>Design Development</u>**				
1,1		Carry out requisite studies including concept design to attain written approval from all relevant stakeholders (e.g Eskom, local municipal submissions where required etc) for the works to commence.	Sum	1		
1,2		Geotechnical investigations	Sum	1		

1,3		Design development of the effluent system upgrades, from concept to detailed design, of all sump pumps, piping system, civil works, mechanical, electrical, control & instrumentation required for the works as defined on the works information. locality.	Sum	1		
2		**Preliminaries and General**				
2,1	8.3.2	Contractor's Equipment, Site services and facilities, Supply of electricity, Sanitary facilities, Security, Supervision for duration of construction, Permits and mandatory approvals, Offices and storage sheds, Living accommodation, Ablution and latrine facilities, Tools and equipment, Water supplies, electric power and communications, Plant, Removal of site establishment, Third party or public liability insurance. (Provide a cost breakdown of the Preliminaries)	Sum	1		
3	**8.3.3**	**Other Fixed Obligations**				
3,1		Compliance with the OSHACT regulations and Eskom SHE specification	Sum	1		
3,2		Quality management	Sum	1		
3,3		HAZOP study	Sum	1		
4		**Construction and Upgrades to the Effluent System**				

4,1		"Upgrades and construction of effluent sumps, installation of pumps, electrical, mechanical installations. All items, including temporary works, scaffolding, occupation planning, all construction activities, civil and earthworks, concrete works, factory fabrication, corrosion and fire protection, assembly, transport to site, erection into place, provision of factory acceptance test. (Provide a cost Breakdown of the Pump Pipes Excavation and Backfill)	Sum	1		
5	**8,5**	**Handover and Commissioning**				
5,1		Testing, Commissioning	Sum	1		
5,2		Interfacing with Existing Plant	Sum	1		
5,3		Factory acceptance test	Sum	1		
5,4		Provision of As Built drawings	Sum	1		
					Sub Total	
					Add VAT @ 15%	
					Total	

PART 3: SCOPE OF WORK

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

C3.1: EMPLOYER'S WORKS INFORMATION

Description of the *works*

Executive overview

Duvha Power Station (PS) has experienced problems with the removal of Water Treatment Plant (WTP) effluent from the effluent sump to the high level ash water return dam. As a result of this, the effluent sump remains full on a continuous basis, and the power station is forced to manage the level by diverting some of the effluent sump contents to the sludge sump. The sludge sump has not been designed to receive effluent of this quality, as the sump is not lined and it has carbon steel pumps and pipelines.
The project seeks to mitigate this problem through the upgrade of the effluent system. The upgrade shall consist of the replacement of all three existing effluent sump pumps, each with a capacity of 125 m3/hr and the construction of a piping system to cater for the new flow rate within the system.
The works is inclusive of all activities necessary for the provision of a fully functional system that meets the Employer's requirements. The Contractor shall design, manufacture, procure, install and commission all Mechanical, Civil, Electrical, Control & Instrumentation Plant required for the works as defined in this technical specification. This shall include interfacing with and utilisation of existing plant and materials. The Contractor shall ensure that the complete design shall be performed by an ECSA registered professional engineer/technologist for each discipline as required by the scope of the design.

Employer's objectives and purpose of the *works*

Background
Wastewater is generated during the production of potable and demineralised water. This wastewater is referred to as effluent, which is defined as water that is contaminated by chemicals and salts. This effluent is sent to the effluent sump from where it is pumped to the high-level ash water return dam for disposal.
The effluent system consists of a 257.55 m3 sump that is divided into three compartments. Each compartment is equipped with an effluent pump with a 54m3/h pump capacity. Two of the effluent pumps are available during operation, while the third effluent pump is on standby. The effluent system is designed to automatically start one of the effluent pumps when the sump level is 40% full, and a second effluent pump is started when the sump level is 60% full. These pumps are required to deplete the effluent sump contents until the level is 25% full and then automatically cut off to prevent cavitation of the pumps. In the event that the effluent sump level exceeds 95%, some of the effluent flow is diverted to the sludge sump.
Duvha PS has experienced problems with the removal of effluent from the effluent sump to the high-level ash water return dam. An estimated 259.9 m3/h effluent flows into the effluent sump during a worst-case scenario. Even with two effluent pumps running, the levels in the effluent sump frequently reach 95% full, which causes effluent to be diverted to the sludge sump. The sludge pumps and pipelines have been corroded as a consequence of the frequent exposure to the effluent.

Objective
The objective of the upgraded effluent system is to ensure that no effluent is diverted into the sludge sump under normal operating conditions and that the effluent sump pumps are not running continuously.

Interpretation and terminology

The following abbreviations are used in this Works Information:

Abbreviation	Meaning given to the abbreviation
A	Amperes
AKZ	Anlagen Kennzeichnungs System
C&I	Control and Instrumentation
CAD	Computer-Aided Drafting
CoC	Certificate of Compliance
CoE	Centre of Excellence
HAZOP	Hazard Operational Analysis
DCS	Distributed Control System
DCP	Dynamic Cone Penetrometer
ECSA	Engineering Council of South Africa
EDWL	Engineering Design Work Lead
h	Hour
HDPE	High density polyethylene
ITP	Inspection and Test Plan
km	Kilometre
kV	Kilovolt
kW	Kilowatt
LDE	Lead Discipline Engineers
LV	Low Voltage
LPS	Low Pressure Services
m	Meter
mm	Millimetre
m3/h	Metres cubed per hour
MV	Medium Voltage
MVA	Mega Volt Amperes
NB	Nominal Bore
NRV	Non Return Valve
OHS	Operational Health and Safety
PS	Power Station
SHE	Safety, Health and Environmental
UV	Ultra Violet
V	Volt
VDSS	Vendor Document Submission Schedule
WTP	Water Treatment Plant
QMS	Quality Management System

Management and start up.

Management meetings

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

Title and purpose	Approximate time & interval	Location	Attendance by:
Kick off meeting, implementation strategy	One off 60 minutes (Time to be announced by Project Manager)	Project Managers office	PM, System Engineer and contractor
Risk registers and compensation events	As and when required	Project Managers office	PM, System Engineer and contractor
Overall contract progress and feedback	Monthly on Monday at 09:00am	Project Managers office	*PM. Contractors' Manager*
Commissioning	Once off	Project Managers office and Site	PM. Contractors' Manager & Supervisor

2) 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.
3) Records of these meetings shall be submitted to the Project Manager by the person convening the meeting within five days of the meeting.
4) All meetings shall be recorded using minutes or a register prepared and circulated by the person who convened the meeting.
5) Such minutes or register as in point 4) 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

1) All formal communication between the *Employer* and the *Contractor* shall take place through the *Employer's Buyer prior contract awarding stage. Once the contract is awarded communication shall take place through the Project Manager (PM)*
2) All formal communication shall be marked with the date and a reference code in the form DVP-XXX-nnn where:
   i. XXX is the acronym of the *Contractor*
   ii. nnn is the sequential number of the communication
3) All formal communication must be acknowledged by the recipient
4) The *Contractor 's* site manager must keep a daily log, which needs to be signed by the Employer's Supervisor daily

Health and safety risk management

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

The *Contractor's* personnel is to undergo Safety Induction Training at Duvha prior to commencement of this contract and all the relevant Documentation is to be approved by Safety Officials and the Project Manager before any activities can be started on site.

1) The Contractor complies with the requirements of the Duvha Power Station Safety, Health & Environmental Specifications SAS 0012: Duvha Power Station Contractors safety manual
2) The documents are completed by the Contractor's and submitted to the Employer before taking possession of the works.
3) These documents are valid for the duration of the works.
4) The Contractor and all his personnel attend a Health and Safety Induction Course prior to starting with the works.
5) The induction course is presented by the Safety Risk Department at Duvha Power Station.
6) The Contractor makes arrangements with Safety Risk Management at telephone number 013-690-0143.
7) The Contractor submits all the documents as indicated in the Safety, Health & Environmental Specifications relevant to the work to Safety Risk Management before the induction course.
8) The Contractor completes all appointments required and ensures that the appointee and appointees fully understand their responsibilities and are competent and trained to execute their duties.
9) The appointees/appointee ensures that all duties are carried out and records are kept by the Contractor for review/audit by the Employer or Inspector of Machinery.
10) Management has the right and authority to visit and inspect the Contractor's workplace or Site establishment.
11) The Contractor supplies and ensures that his employees wear the necessary PPE according to the risk assessments performed on the specific tasks to be carried out.
12) The Contractor ensures that everyone entering Duvha Power Station under his supervision is medically, physically and psychologically fit to enter Duvha Power Station.
13) The medical examination, at the Contractors cost, is carried out by a Registered Professional Occupational Health Practitioner and the examination shall include the following tests:
    i. Eye Test, Blood Pressure,
    ii. Heart Function,
    iii. Hearing Test and
    iv. Lung Function.
14) A thorough examination is done and previous physical injuries, as well as occupational diseases/complications are covered.
15) If at any point in time during the execution of the works, the Contractor has a radiation-related incident/exposure, the onus is on the Contractor to immediately notify the Employer, the Medical Station, the Risk Manager and the Safety Risk Management Department.
16) The onus thereafter is for the Contractor to immediately arrange, at his/her cost, for blood samples to be taken by a Registered Laboratory and for this sample to be sent to the Accelerator Laboratory in Cape Town for full radiation exposure tests. This test results are then to be discussed with the Duvha Occupational Health Practitioners, who will then advise the Power Station Management on the risk, if any, of the incident/exposure.
17) The Contractor takes full responsibility and accountability for all other people/staff/personnel/labour that he/she employs or utilises, whether in full-time/part-time/contract basis, in executing the works or other work whilst on the Employers premises.
18) The Contractor ensures that Safety Harnesses are used for all work carried out in elevated positions, as defined in the Occupational Health and Safety Act, No 85 of 1993 or any other Code of Practice or standard or the Construction Regulations.
19) All safety equipment or Machinery used complies with the SANS Codes of Quality and Practice or any Code as stipulated in the Occupational Health and Safety Act, No 85 of 1993, and any amendments thereto.

20) The Contractor at all times consider himself as “Employer” as defined in the Occupational Health and Safety Act, No 85 of 1993 and do not consider himself as under supervision or management of the Employer with regard to Health and Safety Requirements but only from a Commercial Contractual Condition of Contract. Under no circumstances does the Contractor consider himself a sub-ordinate or being given supervision.
21) The Contractor provides and maintains his own facilities as required in the Occupational Health and Safety Act, No 85 of 1993 or any other Code of Practice or standard or the Construction Regulations, if not agreed contractually or arranged by the Employer.
22) The Contractor has Safety Systems in place at his premises for the total contract period and these shall include the following:
    i. Safety Management Structure and Compliance to these
    ii. Statutory Appointments
    iii. Records and documentation of all Risk and Hazard Analyses.
    iv. Planned Job Observations Records and Documents.
    v. Employment history and records of all personnel, part-time or full-time or contract labour.
    vi. Medical History of all personnel, part-time or full-time or contract labour
    vii. Training and Competency Records with regard to Safety, Health and Environment.
    viii. Training and Competency Records with regard to the skills he uses to carry out the works or any other works in the Employers premises.
    ix. Compensation Commissioner Records and proof of registration.
    x. Records and documentation with regard to any sub-contractor or labour-only contracts he places or uses to carry out the works or any other works in Employers premises.
    xi. Personal Protective Equipment and Safety Equipment Inspection, training and competency records and documentation.
    xii. Employment contracts for all sub-contractor or labour-only contracts.
    xiii. Compliance to a Safety System, such as NOSA or any other system that is similar in nature.
    xiv. Records of all incidents or accidents, and vehicle accidents, incurred during execution of this works or any other works in the Employers premises.
    xv. Records of all man-hours, including sub-contractors or labour-only contracts, the Contractor spends on the Employers premises.
    xvi. Written Safe Work Procedures for all hazardous tasks the Contractor executes on the Employers premises.
    xvii. A Fall Protection Plan for all elevated work the Contractor does on the Employers premises.
    xviii. Environmental plan and awareness training.
    xix. Induction training records of his staff by himself/herself.
    xx. Minimum wage compliance for the different skills and to which Bargaining Council compliance is made to and proof of membership, if any.
    xxi. Risk Assessment of this type of works
    xxii. Proof of authorisation/accreditation from Department of Labour and or other Statutory Body for this type of works, if applicable
    xxiii. Emergency Evacuation and Rescue Plan for the hazardous tasks related to the works.
23) The contractor shall appoint a person, qualified and competent in accordance with the SHEQ requirements, as the liaison with the Eskom safety officer/delegated person for all matters related to health and safety, this person is contactable 24hours a day.
24) The contractor shall comply with the following:
    i. Form 74 – SHE specification.
    ii. Eskom Safety, Health, Environmental and Quality Policy: 32-727
    iii. Eskom Life Saving Rules, Directive: 32-421
    iv. Eskom Procedure on Smoking: 32-36
    v. Eskom Incident Management Procedure 32-95 Rev 3
    vi. Eskom Plant safety regulations 36-681.
    vii. Eskom Integrated Risk management and Standards 32-391

viii. PGZ 45-24 HAZOP study guidelines
ix. Eskom Standard SAS0012 Safety, Health & Environmental Specifications For Contractors

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

Environmental constraints and management

(1) The Contractor shall comply with Eskom Environmental procedure waste management procedure 32-245
(2) The Contractor is responsible to keep the work area clean of any rubble.
(3) All waste introduced and/or produced on the Employer's premises by the Contractor for this contract, is handled in accordance with the minimum requirements for the Handling and Disposal of Hazardous Waste in terms of Government Legislation as proclaimed by the Department of Water Affairs and Forestry Act 1994 Ref: ISBN0621 - 16296-5.
(4) The Employer will provide special colour coded bins for refuse disposal. The Employer will empty these bins.
(5) The Contractor ensures that all workers under his control strictly adhere to the correct use of refuse bins:

Maroon bins: - Scrap metal only
White bins: - Lagging and general household rubbish
Yellow bins: - Ash, dust, coal dust and sand

(6) For the full duration of the Works, the Contractor is responsible to keep the work area clean of any rubble, and to place all refuse into the bins provided.
(7) Removal of scrap and waste, including concrete/ash/refractory material to a location within the Duvha Power Station security gates and/or the ash dams must be included in the Price Schedule or Bill of Quantities. This must be inclusive of labour and equipment i.e., forklifts spades, shovels, transport,

The *Contractor* shall comply with the environmental criteria and constraints stated in this Work Information

Quality assurance requirements

(1) All work is carried out under the supervision of an experienced supervisor.
(2) The Contractor complies with the Employer's Quality Requirements as specified in Eskom Generation Standard QM58.
(3) All quality control documentation (QCP) is submitted to the Project Manager within 7 days of Contract date.

Programming constraints

(1) The Contractor submits a programme within 1 week of the Contract Date.
(2) The program shall be in Microsoft Projects format or Primavera
(3) The programme indicates
   i. The hour duration of each activity,
   ii. The working calendar (number of work hours per day, days per week),
   iii. The exact quantity of people per day
   iv. All phases and interfaces

Contractor's management, supervision and key people

(1) The contractor shall provide a site Supervisor or Project Manager to supervise, monitor, control and coordinate all activities during the execution of the works

(2) Contractor shall also provide the following staff:
   i. Quality control supervisor
   ii. Site Safety representatives
   iii. Design and Testing Engineer
   iv. Responsible Person (RP)
   v. Boilermaker

Invoicing and payment

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 showing the amount due for payment equal to that stated in the Project Manager's payment certificate.
2) 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;*
   i. The contract number and title;
   ii. *Contractor*'s VAT registration number;
   iii. The *Employer*'s VAT registration number 4740101508;
   iv. Description of service provided for each item invoiced based on the Price List;
   v. Total amount invoiced excluding VAT, the VAT and the invoiced amount including VAT;
   vi. add other as required)

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

Insurance provided by the *Employer*

1) Refer to the contract data.

Contract change management

1) The Contractor or the Project Manager formally notifies each other of any event which may lead to a change in agreed terms as per NEC 3.

Provision of bonds and guarantees

(1) 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.

(2) 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.

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

1) The Contractor may keep records of payment and assessments of compensation events if deemed necessary.

Training workshops and technology transfer

1) The Contractor provides manuals to the project manager and will offer training to relevant departments as instructed by the Project Manager
2) Training should be given to the following employees initially:
   i. Operating Department (Water Treatment Plant, Performance and Testing)
   ii. C&I Outside Plant Maintenance.
   iii. Electrical Maintenance Department (EMD)
   iv. Mechanical Heavy Maintenance Department (HMD)
   v. Engineering Department (Civil. Electrical, Mechanical, Process & Instrumentation).

Engineering and the *Contractor*'s design

(1) In a case whereby the Contractor is task to develop a design solution the below points will apply
   a) The *Contractor* develops the detail design for the execution of works.
   b) Any item of the conceptual design that is not feasible is corrected in the *Contractor*'s detail design.
   c) The *Contractor*'s design includes schedule detailing the plant location code, size, type and make of all instrumentation and equipment utilised.
   d) Design is approved when the *Project Manager* certifies sectional completion of the design activity.
   e) The *Employer* may use the *Contractor's* design for any purpose related to the *Employer's* operational activities.

Employer's design

1) Engineering design is defined as being all activities required to translate the *Contractor's* scope of *works*, into a fully functional data capturing system
2) All Engineering design activities are executed by the *Contractor* in active co-operation with the *Project Manager*
3) The engineering design activities are phased to suit the Accepted Programme
4) A plant walk is performed including, but not limited to:
   i. Verification of location and suitability of hardware installation points
   ii. Verification of location and suitability of cable routing paths.
5) As a minimum, Engineering design consists of the development, technical clarification and acceptance of the following:
   i. Engineering programme
   ii. Index and master register of documents
   iii. Documentation synopsis
   iv. OEM best practices
   v. Cable Routing Diagrams
   vi. Cable & Termination schedules
   vii. Engineering and maintenance procedures
   viii. Cabling concept
   ix. Bill of Materials (make, model, rating, quantity etc…)
6) The *Contractor* and the OEM identify any discrepancies that would lead to shortcomings in the design and makes the *Employer* aware of such discrepancies and provides recommendations, where applicable. The *Contractor* takes action on such discrepancies.
7) The design to be comply with the following standards

CIVIL AND STRUCTURAL

1) SANS 10400 Application of the National Building Regulations

2) SANS 10400 Application of the National Building Regulations

3) GAM/MAT/21/146: Corrosion Protection Specification – Duvha Power Station - Water Treatment Plant Acid Regeneration Bays – Acid Proof Tiling

4) GAM/MAT/21/181: Corrosion Protection Specification – Duvha Power Station - Sulphuric Acid Storage and Dilution System Structural Steel Work and Plinths

5) GAM/MAT/21/185: Corrosion Protection Specification – Duvha Power Station: Water Treatment Plant Acid Regeneration Piping – Rubber Lined.

6) GAM/MAT/21/189: Corrosion Protection Specification - Duvha Power Station Water Treatment Plant Corrosion Protection of Effluent Channels by Thermoplastic Sheeting.

MECHANICAL STANDARDS

1) 32-632 Requirements for Non-Destructive Testing (NDT) on Eskom Plant

2) 240-56241933 Control of Plant Construction, Repair and Maintenance Welding Activities

3) 240-56355225 Welding of High Pressure, Temperature Tube and pipework

4) 240-56246601 Personnel and Entities Performing Welding Related Special Processes on the Employer's Plant

5) SANS 1091 National colour standards of paint

6) SANS 10140 Identification colour markings

7) 240-123801640 Standard for Low Pressure Pipelines

8) 240-106628253 Standard for Welding Requirements on Eskom Plant

9) 240-150642762 Generation Plant Safety Regulations

10) GAM/MAT/21/185: Corrosion Protection Specification – Duvha Power Station: Effluent piping System – Rubber Lined

CHEMISTRY STANDARDS

1) 240-55864792 Chemistry standard for once through boilers above 16MPa

2) 240-88257914 Chemistry Guideline for Demineralised Water Production Using Ion Exchange Resins

OTHER STANDARDS

ENS0002 Duvha Power Station AKZX Plant Location Coding Manual

1) 240-71432150 Plant Labelling Standard

2) Occupational Health and Safety, Act Number 85 of 1993

3) 240-49230111 Hazard and Operability Analysis (HAZOP) Guideline (Rev 1)

4) 240-30008949 Safety, Health and Environmental Specifications for Contractors

5) 240-105658000 Supplier Quality Management Specification (QM 58)

6) 240-28463367 SHE Organization

7) 240-62196227 Life Saving Rules

8) 240-101712128 Standard for the Internal Corrosion Protection of Water Systems, Chemical Tanks and Vessels and Associated Piping with Linings

9) 240-106365693 Standard for the External Corrosion Protection of Plant, Equipment and Associated Piping with Coatings

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

1) The Contractor provides all equipment and services and executes all works to fulfil all requirements specified in this Works Information.
2) The works complies with professional engineering practice and standards for fossil fuel power plants
3) The works is designed for the environmental conditions prevailing at Duvha Power Station Site

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

1) The Contractor submits any drawing or documentation that will fulfil the requirements of this works
2) All drawings or documentation are submitted to the *Project Manager* in a formal communication.
3) Statement of design acceptance or a list of design faults will be issued within one week of design receipt by the *Project Manager*
4) The *Contractor* submits a written design change request to the *Project Manager* for any modification the contractor wants to make to the as built status of the FTG.
5) The *Contractor* supplies a written modification description, reason for modification, drawings, method statement, cost estimate and time estimate for the proposed change.
6) The *Contractor* does not implement the modification before he obtains written approval for the design change from the *Employer*.

Other requirements of the *Contractor*'s design

Physical Characteristics
The Contractor is to ensure that all components installed are consistent and standardised, where possible, with existing plant components. The equipment should be protected from corrosion (acid induced and other) and external ingress

Use of *Contractor*'s design

1) The Contractor's design is considered property of the Employer
2) The Contractor's design is made use of during future operation and expansion of the system
3) Eskom Pr Eng. (Civil & Structural) will be responsible for acceptance of the structural integrity of of this project.

Design of Equipment

a) To be supplied by the Contractor prior the execution and approve by Eskom Specialist.

Equipment required to be included in the *works*

The Contractor must submit a project Inspection and Test Plan for all equipment included in the scope. The Contractor must only use ISO 9001 accredited suppliers for the equipment used in this

project. The ISO 9001 certification should be supplied with the delivery documentation. Failure to do so will result in rejection of the equipment by Eskom. The Contractor should specify which pieces of equipment are of a proprietary nature; where standard documentation and certificates of conformity are the only forms of certification. If any components are to be manufactured, the Contractor must ensure that the manufacturer is ISO 9001 certified. The Contractor must supply Inspection and Test Plans for each phase of the project and submit to Eskom for review and approval.

As-built drawings, operating manuals and maintenance schedules

(1) 'As Built' documentation is supplied by the *Contractor* to the *Project Manager* upon completions of works.
(2) Hard copies and soft copies of As Built documentation is provided by the *Contractor* as part of the works
(3) Acceptance of the ‘As Built’ documentation is a pre-requisite for the completion of the works
(4) The documents are reviewed by the *Project Manager* for correctness and conformance to the accepted design.
(5) Soft copies must be in Microsoft Office 2010 format
(6) Drawings must be in Bentley MicroStation or similar CAD 2D format

Procurement

The Contractor is responsible for all procurement of materials required for the construction, installation and commissioning of the Works. The Contractor must:

- Ensure that all equipment and materials are inspected. The Contractor must also inform the Project Manager to arrange for the Eskom representatives to inspect the equipment and materials before it is delivered to Site.
- Ensure that all the relevant factory tests are conducted on the equipment and that these tests are witnessed by both the Contractor as well as Eskom representatives.
- Submit calibration certificates to the Project Manager for all equipment used for testing.

3) Spares and Consumables

The Contractor will provide all the critical spares for the plant as part of the Works. (refer to Employer's Engineering Design for the critical spares list)

Prior to handover of the plant, the Contractor must ensure that Eskom has all the critical spares (as per the critical spares list) on hand.

People

Minimum requirements of people employed on the Site

1) Minimum requirements of people employed on the Site

People providing the works will have been declared competent in writing to carry out the works. They will abide by all the rules and regulations as set out by Duvha Power Station. They are prohibited from being or going to any other site other than the one where the work is being executed.

2) BBBEE and preferencing scheme

Eskom's policy is to maximise purchases from Black or Black Empowering Enterprises (BEE's) whether Black Woman-owned, small or Large Black or Black empowering suppliers. The purpose is to promote entrepreneurship in black communities and give black business access to the mainstream of business opportunity.

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

The Contractor complies with and fulfils the Contractor's obligations in respect of the Accelerated and Shared Growth Initiative - South Africa in accordance with and as provided for in the Contractor's ASGI-SA Compliance Schedule IT 1.2 ASGI-SA requirements.

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The *Contractor* shall keep accurate records and provide the *Project Manager* with reports on the *Contractor*'s actual delivery against the above stated ASGI-SA criteria. [Elaborate on access to and format of records and frequency of submission etc.]

The *Contractor*'s failure to comply with his ASGI-SA obligations constitutes substantial failure on the part of the *Contractor* to comply with his obligations under this contract.

Subcontracting

Preferred subcontractors

1) No Subcontractor shall be appointed without the written acceptance of the *Project Manager*, refer to clause 11 and 26 of the Engineering Construction Contract (ECC).
2) The *Contractor* must inform the *Project Manager* when intending to subcontract some of the works from the contract scope
3) The *Contractor* shall provide the necessary facilities in order to manage a subcontractor to ensure that the works are carried out in accordance with :
    - The programme of the *works*;
    - The conditions of the contract; and
    - The Works Information and in particular, the requirements of the Safety Plan , Environmental Management Plan, Quality Management Plan and Operational procedures

Subcontract documentation, and assessment of subcontract tenders

1) The *Contractor* submits the proposed contract data for each subcontracting for acceptance to the *Project Manager*.
2) The *Contractor* prepares a subcontracting document as according to the NEC Contract.
3) The *Contractor* takes note that their Subcontractors Safety Files will be accepted by the *Contractor's* Safety Manager before it is handed to the *Employer*'s SHE practitioner/Officers for verification of compliance before any work commences.
4) Proof of acceptance by the Contractor Safety Manager needs to be in the Safety file when handed over to Employer's SHE Practitioners for verification.

Limitations on subcontracting

1) The *Contractor* does not sub-contract more that 25% of the contract value to another enterprise that does not have equal or higher B-BBEE status level, unless the intended sub-contractor is an Exempted Micro Enterprise that has the capability and ability to execute the sub-contract.
2) In relation to a designated sector, the *Contractor* will not be allowed to sub-contract in such a manner that the local production and content of the overall value is reduced below the stipulated minimum threshold (Percentage of the specific contract).
3) The Contractor does not subcontract with his subsidiary companies as this may be interpreted as subcontracting with himself and / or using their subsidiaries for fronting. Where the Contractor subcontracts with a subsidiary this must be declared in tender documents

Attendance on subcontractors

1) Not Applicable

Plant and Materials

Quality

The Contractor is required to submit a comprehensive Quality Management System (QMS) for all phases of the project. This QMS must comply with the requirements of 240-105658000. The Contractor and all of the Contractor's suppliers must hold a compliance certificate for their QMS to the requirements of ISO 9001:2015. The Employer reserves the right to conduct any audits in this regard.

Documents are to be submitted for review by the Employer after the Contract Date and before commencement of work.

The Contractor must submit a detailed Quality Manual and Quality Control Plan which will be reviewed and accepted/rejected by Eskom.

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

No free issue plant and materials will be available. All plant and materials are to be provided by the Contractor.

Contractor's procurement of Plant and Materials

The Contractor is responsible for all procurement of materials required for the construction, installation and commissioning of the Works. The Contractor must:

- Ensure that all equipment and materials are inspected. The Contractor must also inform the Project Manager to arrange for the Eskom representatives to inspect the equipment and materials before it is delivered to Site.
- Ensure that all the relevant factory tests are conducted on the equipment and that these tests are witnessed by both the Contractor as well as Eskom representatives.
- Submit calibration certificates to the Project Manager for all equipment used for testing.

Spares and consumables

The Contractor will provide all the critical spares for the plant as part of the Works. (refer to Employer's Engineering Design for the critical spares list)

Prior to handover of the plant, the Contractor must ensure that Eskom has all the critical spares (as per the critical spares list) on hand.

Tests and inspections before delivery

Eskom and its representatives will carry out inspections at their own discretion. All inspections and testing are to be performed in accordance with the QCP developed by the Contractor and accepted by Eskom and its representatives. A factory release inspection does not release the Contractor from their obligations.

Marking Plant and Materials outside the Working Areas

Not applicable

Contractor's Equipment (including temporary works).

The Contractor is liable for all plant and equipment under their control. Eskom will not take responsibility for any loss or damage to the plant and/or equipment of the Contractor

Cataloguing requirements by the *Contractor*

Not applicable

Construction

Temporary works, Site services & construction constraints

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

1) All the Contractor's employees are to attend a mandatory site safety induction course before they are allowed to work on site. It is the responsibility of the Contractor to ensure that all of their staff has attended the induction. The Contractor must compile their own safety file which has to be approved by Eskom's safety officer. This file must be approved before the Contractor may attend the safety induction course.

2) The Contractor must provide a list of all employees, along with the dates and times of arrival, at least 2 days prior to arrival on site.

3) All individuals entering Duvha Power Station will be subject to alcohol testing daily. No person found to be intoxicated will be admitted on the premises. All Covid-19 protocols must be followed by all individuals prior to entering and throughout their entire duration on Site. It is the responsibility of the Contractor to ensure that their staff is compliant

Restrictions to access on Site, roads, walkways and barricades

1) In addition to the above there may be other restrictions once on the Site, plus rules relating to roads, walkways and the provision of barricades

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

1) The Limited Access Register (LAR) will used by the Eskom personnel who are in charge of the plant. It is used to maintain control over the individuals in the plant as well as activities taking place on the plant that are not covered by the Plant Safety Regulation and Operating Regulations for High Voltage Systems.
2) The Project Manager or Supervisor will accompany the Contractor for the first instance of working under the LAR of the specific plant area. Thereafter, the Contractor is expected to know and abide the rules and regulations which are set out.
3) The works must be executed under normal working hours should there be overtime requirements, the contractor must submit a request to work overtime to the project manager for acceptance.
4) *Contractor* keeps records of his people on Site, including those of his/her Subcontractors which the *Project Manager* or *Supervisor* have access to at any time. These records may be needed when assessing compensation events.

Health and safety facilities on Site

1) Local Safety Procedures

The Contractor must abide by all Local Safety Procedures, available from Eskom on request.

2) Incidents

In accordance with '32-136 Safety, Health and Environmental Requirements for Contractors', all incidents must be investigated by the Contractor and reported to Eskom within 24 hours of the incident

occurring. The Contractor is advised to have a first aid station on site. Eskom's medical centre will be available to the Contractor on request and at a fee.

3) Safety

The design, manufacture and installation of equipment are to comply with SABS and all other local by-laws. All safety devices are to be installed to prevent damage to personnel, equipment and property and are to be tested by the Contractor. The Contractor must testify that these safety devices are in proper working order, in the form of inspection reports. Test certificates from accredited laboratories are required to confirm the fire hazard ratings for all equipment and materials. In accordance with '32-136 Safety, Health and Environmental Requirements for Contractors', fire prevention and protection must be adhered to.

4) Inspection of Equipment

- The Contractor's equipment will be inspected by a suitable Eskom employee upon arrival on site.
- Where applicable, copies of all test certificates and maintenance records are to accompany the Contractor's equipment. Non-compliance will result in Eskom removing the equipment in question, from site.

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

a) No fauna or flora will be collected or removed from any farm by any visitor without written permission of the landowner, in which case cognizance will be taken of appropriate provincial legislation pertaining to fauna and flora.
b) Under such cases Eskom Holding's ethical policies and guidelines will be strictly applied.

Title to materials from demolition and excavation

All pipe offcuts and scrap metal should be sent by the Contractor for recycling, unless otherwise specified by Eskom. It is the responsibility of the contractor to ensure that all acid and water spills are routed to the effluent sump. The Contractor is responsible for the ethical and environmentally conscious disposal of any waste generated by the Contractor.

Cooperating with and obtaining acceptance of Others

a) T The Contractor shall co-operate with others in obtaining and providing information which they need in connecting with the works.
b) The Contractor shall share the working area with others in executing the works.

The contractor cooperates with others in obtaining and providing information which they need in connection with the works.

Publicity and progress photographs

1) Should publicity and or progress photographs be required an application shall be made via the Project Manager

***Contractor*'s Equipment**

a) The Contractor's attention is drawn to the applicable regulation framed under the Machinery and Occupational Safety Act, 1983 (Act No. 6 OF 1983)

b) When working in built-in areas , the contractor shall provide and use suit able and effective silencing devices for pneumatic tools and other plant would otherwise cause a noise level exceeding 85 Db(A) during excavation and other works.
c) Alternatively the Contractor shall by means barriers, effectively isolate the source of any such noise in order to comply with the said regulation.

Equipment provided by the *Employer*

a) Should the *Contractor* require using of any of the *Employer's* Equipment, including compressed air, electricity, water supply and crane age, it must be specified in the Works Information supplied by the *Contractor.* The *Employer* does not guarantee continuity of supply of any of these items.
b) The *Employer* shall be entitled to withdraw use of the said Equipment, should proper maintenance and cleanliness not be ensured. In that event, the *Contractor* shall be obliged to provide the necessary Equipment at his own cost.
c) The *Contractor* is responsible for the repair, replacement or correction as necessary of all pieces of tools and equipment supplied by the *Employer* which are damaged and / or lost whilst in the *Contractor*'s custody and control.

Site services and facilities

a) Potable Water Supply
- Potable water is available at the existing points.

b) Electrical Power Supply
- Power is available at the existing points.

c) Toilet Facilities
- The *Employer* provides the *Contractor* access to existing toilet facilities.

d) Catering Facilities
- The *Contractor* are not allowed to use the *Employer's* dining facilities, unless a specific agreement has been made between the *Contractor* and Eskom Catering and Accommodation Services (ECAS).
- The *Contractor* may buy take away meals from the fast foods outlet on Site.

e) Medical Facilities
- The *Contractor* provides a First Aid service to his employees and subcontractors. In the case where these prove to be inadequate, like in the event of a serious injury, the *Employer's* Medical Centre and facilities will be available.
- Outside the *Employer's* office hours, the *Employer's* First Aid Services are only available for serious injuries and life threatening situations.
- The *Employer* recovers the costs incurred, in the use of the above *Employer's* facilities, from the *Contractor*

Facilities provided by the *Contractor*

1) The contractor should provide facilities they deem necessary in executing the work. This must be discussed with the Project Manager prior to commencement of work.
2) The Contractor shall supplies all the necessary equipment and material required to execute the works, including portable ablution facilities and proper eating facilities for their employees.

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

1) The Contractor will cooperate with others who might be working in adjacent premises.

Survey control and setting out of the *works*

1) Regular plant walks on safe work execution and production will be carried out by the Project Manager randomly.

Excavations and associated water control

1) The Contractor is responsible for the ethical and environmentally conscious disposal of any waste generated by the Contractor

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

1) In the case where piping might have to be laid underground, it is the *Contractors*' responsibility to ensure that no electrical, signalling cables or any other underground piping is damaged during the installations of works.
2) The *Contractor* is responsible for scanning of the pipeline route to identify existing underground services on the path using Electromagnetic detection equipment capable of detecting underground cables and pipes. The *Contractor* compiles a report of underground services and issue it to the *Employer*. The *Contractor* ensures that all identified services and servitudes are protected (not damaged) throughout the construction.

Control of noise, dust, water and waste

1) Earplugs should be worn if excessive noise will be generated by machinery. Dust masks will be worn to prevent dust inhalation.

Sequences of construction or installation

1) The implementation of this project must coincide with the project which aims to resolve the uneven floor in the WTP. The mixed bed and cation eductor systems should only be installed once the floor where the systems will be installed on is repaired.

Giving notice of work to be covered up

1) Project Manager to be notified about any issues that poses a risk to the plant or employees before any specific task in relation to that risk is undertaken.

Hook ups to existing works

1) The Contractor must inform the project manager and the engineer if a need arise of hooking up on existing work.
2) The project engineer will then verify the safe use of any existing structure as a support.

Completion, testing, commissioning and correction of Defects

Work to be done by the Completion Date

All work and documentation, except those listed below, must be completed by the Contractor before the Completion Date of the Works. The Project Manager cannot certify that the work is complete until all work and documentation (except those listed below) has been done and the work is free of defects.

- As built drawings of the Works – Completion date is within 14 days of completion of the Works.

	Item of work	**To be completed by**
	As built drawings of	Within 14 days after Completion
	Performance testing of the *works* in use as specified in paragraph of this Works Information.	See performance testing requirements.

Use of the *works* before Completion has been certified

1) The Employer will take over the completed works after commissioning without any defects.

Materials facilities and samples for tests and inspections

1) All signed test reports/results (concrete, layer works compaction, weld test) are to be submitted to the Project Manager within 3 days of the completion of the test.

Commissioning

1) The Contractor shall conduct commissioning under the supervision of the Project Manager and Engineer.
2) The Contractor shall carry out sufficient checks to satisfy himself that the material use and the workmanship comply consistently with the specified requirement.

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

1) The plant is to only be put in operation after the safety clearance and functional testing of all systems.

Take over procedures

1) Handover of plant will be initiated only after the system has successfully completed all functional tests.

Access given by the *Employer* for correction of Defects

1) The Project Manager issues the defects certificate at the later defect date and the end of the last defect correction period. The Employer's right in respect of the defect which the supervisor has not found and notified are not affected by the issue of the defect certificate.
2) The Contractor contacts the Project Manager to gain access to the site to correct defects.

Performance tests after Completion

1) Duvha Quality department together with the Project Manager, Engineer and Contractor will sign off the works as having met all the requirements as set out in the works information after completion.

Training and technology transfer

1) All operating and maintenance requirements must be included in the training manuals. The contractor must provide training on operating and maintaining the system (in all scenarios) to the Eskom operators and maintenance staff. The operator must also provide training on the system to the engineering staff.

Operational maintenance after Completion

1) The contractor accepts full responsibility once he executes the works that the product will last for the minimum operational duration as stated in the data packs after project completion and commissioning.

Plant and Materials standards and workmanship

Dealt with in the scope of work Investigation, survey and Site clearance

1) Thorough site inspection will take place with Contractor, Project Manager and System Engineer in attendance prior to commencement of work on site.

Investigation, survey and Site clearance

1) The Contractor must evaluate whether these existing components are suitable for their design as stipulated on the technical specification 382-169378 section 3.1.5. For the components that do not fall within the battery limits, the Contractor must design the system such that these components are suitable.

Building works

Not applicable

Civil engineering and structural works

1) All civil and structural design work and components are to be performed, supplied and installed by the Contractor, if these are deemed necessary in the Contractor's detailed design.

Electrical & mechanical engineering works

1) All engineering works, electrical and mechanical will be carried out according to Plant Safety Regulations (Permit to Works System) and any other station specific rules and regulations.

Process control and IT works

1) The C&I scope includes installation of field instruments/equipment that will interface with the WTP Distributed Control System (DCS). Design and Engineering of the new operating and control philosophy (section 3.2 and 3.3 technical specification) in the WTP Symphony Infi90 DCS. Development of new graphics in the WTP 800xa Human Machine Interface (HMI).

Other [as required]

List of drawings

Drawings issued by the *Employer*

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

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

Drawing number	Revision	Title

C3.2 *CONTRACTOR*'S WORKS INFORMATION

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

Typical sub headings could be

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

This section could also be compiled as a separate file.

C3.1: EMPLOYER'S WORKS INFORMATIONE

See the attached Appendix D

PART 4: SITE INFORMATION

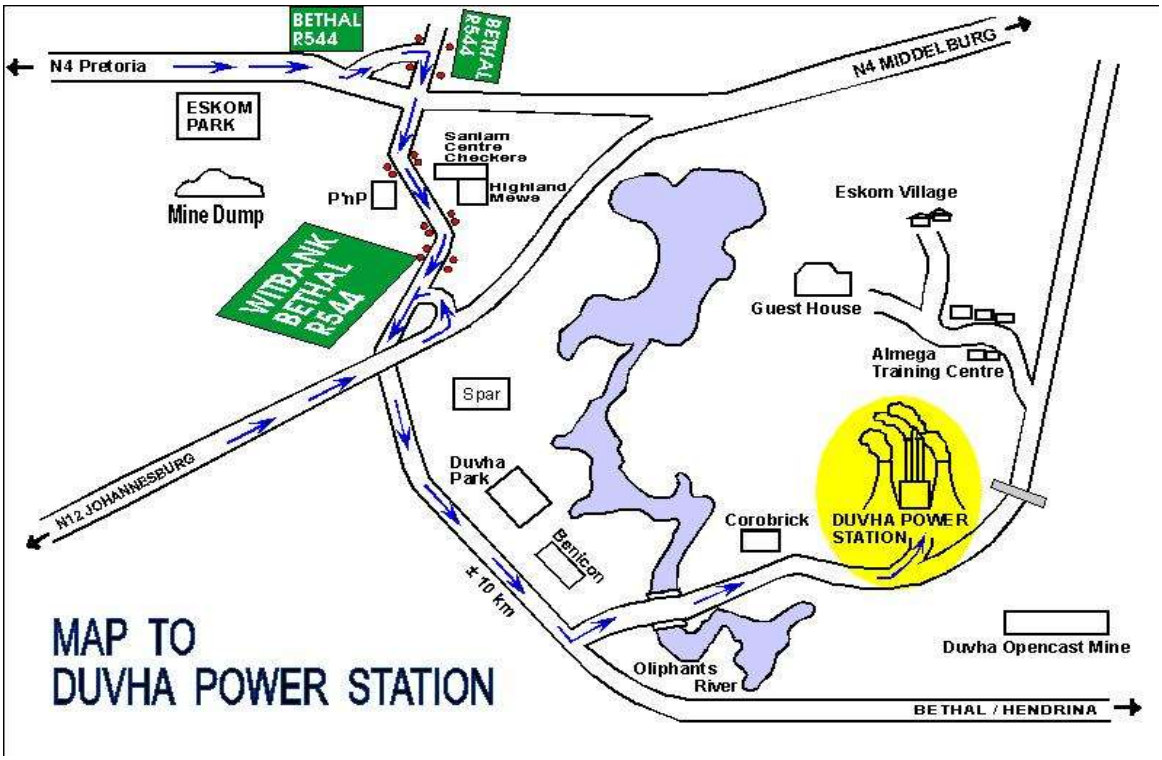
Document reference	Title	No of pages
	This cover page	1
C4	Site Information	
	Total number of pages	

PART 4: SITE INFORMATION

Core clause 11.2(16) states

1. Site Location

Duvha Power Station is located approximately 15km from Emalahleni, Mpumalanga Province and at an elevation of 1 600m above sea level. The location and access roads are shown in the diagrams below.



2. General description

Location of working area: circled in red, Duvha Power Station South cooling towers, Water treatment Plant, Unit 4 22m level equipment room

3. Wetland and No go Areas

Green polygon - is an artificial wetland likely caused by altered drainage and associated infrastructure causing ponding and the establishment of wetland vegetation.

Works in the red highlighted circle will require a method statement and Risk Assessment. No work to be carried within the orange area unless is 50 meters away. The area is marked as a no go area for construction activities.

Fig A

FIG B

4. Maintenance and Housekeeping

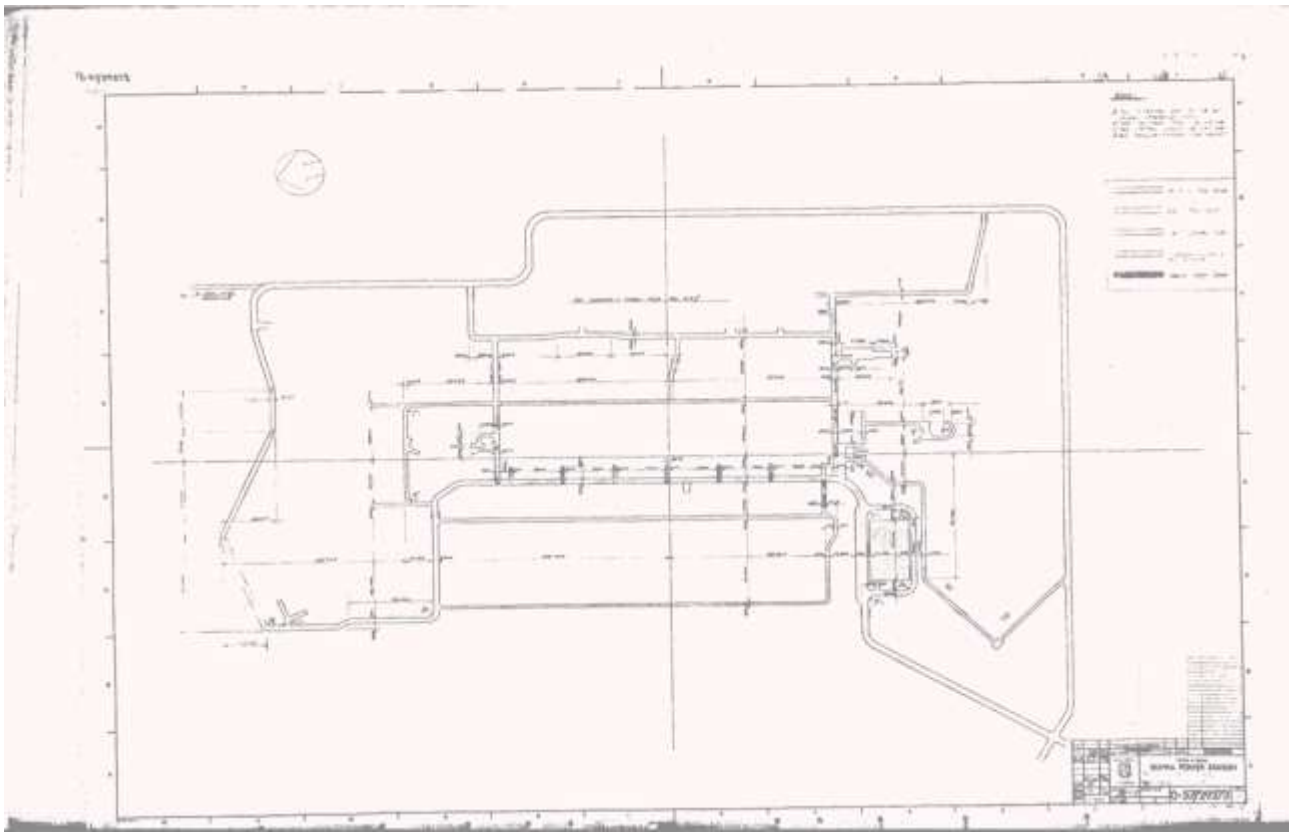
Maintenance of and within the Laydown Area and housekeeping of the Laydown and Working Areas will be the sole responsibility of the Contractor. All waste will be managed in accordance with Eskom Waste Management Procedure 32-245

5. Roads

The Contractor is provided with the Station Roads Layout (0.57/ 29273) which indicates the position of roads, width and turning radii, in order to plan access and movement of vehicles to Duvha Power Station. The Contractor's proposed route is issued to the Employer for review and acceptance. The Contractor is also issued certain available long sections and cross sections of the access roads.

The Contractor identifies the type of vehicles (incl. loading capacity), number of vehicles, and frequency of vehicles required in order to complete the works. The Contractor takes note that all existing available roads drawings are provided for information only. The Contractor is responsible for verifying the information provided before use.

- *Drawings provided for information only:*
- *0.57/ 29273 - Duvha Power Station, Station Roads Layout*



Note: The employer will provide electronic format of the above drawings, at the contractor request.

6. Services

a) Air

The Contractor is responsible for the supply of compressed air as is necessary for the execution and completion of the Works and remedy of defects.

b) Water

The *Employer* is to supply free issue potable water for domestic use, at a designated supply point. For uses other than domestic, the Contractor is responsible for the supply of water. Supply is based on reasonable use. The Supply point information is as per the Laydown and Working Areas Schedule.

Contractor is responsible for connection to the designated supply point and routing to desired areas within Laydown and Working areas.

c) Electrical Power Supply

Power is available at the existing points as provided by the *Employer*.
The Contractor provides his own portable 380V electrical distribution boards, and supply cables to and from the boards, for all his power supply requirements to execute the works.

Contractor's Electrical Distribution Boards complies with OHSA as referred to in the Electrical Installation Regulations and the Electrical Machinery Regulations.
Each board brought onto site must have a Certificate of Compliance issued by an accredited person.

The Contractors electrical distribution boards are installed at the works on a time negotiated with the Project Manager, prior to the access to the working site.
The Employer connects distribution boards to a 380V three-phase AC power supply, only after the Contractor has submitted the valid Certificate of Compliance.
All Contractors' Electrical Distribution Boards are earthed to the steel structure of the plant.

d) Sewage

The Contractor is responsible for either connecting to the local Sewage system or providing other means of managing sewage as required. The Contractor is responsible for connection to the designated supply points.

e) Gas

The Contractor is responsible for supply of any Gas as is necessary for the execution and completion of the Works and remedy of defects.

f) Communications

The Contractor will be responsible to provide for all communications services, including but not limited to internet, telephone, radio, required for the execution and completion of the Works and the remedy of Defects.

g) Overhead lines

The *Contractor* is responsible for ensuring any activities on Site do not interfere, impede or in any way disrupt any overhead lines, pylons or other transmission and distribution equipment. This is including but not limited to the transportation of Contractor's Equipment, Materials, Plant and Temporary Works to and from the Laydown and Working Areas.

The Contractor will be notified by the Employer for any services interruptions longer than 24 hours.

Planned interruptions may include strikes, maintenance and repairs activities etc.

7. Roads, facilities and Security

7.1 Access Road

The Contractor will be deemed to have been satisfied as to the suitability and availability of access routes to the Site (and other places, if any, as may be specified under the Contract as forming part of the Site).

7.2 Access to Site

Access to Site and continued use of the Site will be is in accordance with Duvha Access Control Procedure SCP0004 and the National Key Points Act, 1980 (Act No. 102 of 1980). The following must also be noted:

a) The *Contractor* applies for access permits for all works via the Employer's Representative.
b) The Contractor applies for Contractor's Permits for all his employees and/or subContractors at the Security gate, at least 72 hours prior to entry of the Duvha Power Station Security Area.
c) The Contractor submits his/her company's employee list to the Employers Safety Department listing all of the personnel that he intends using on Site when booking for SHE Induction as soon as the Contractor SHE File has been assessed and approved. At least 48 hours prior notice must be given to the Employer's Representative of the requirement to attend Site SHE inductions.
d) The completed list, identified with the Contractor's name, contains the following information:
    - Employee Name
    - Employee ID Number
    - Eskom Safety Co-ordinator signature
    - Employer's Representative's signature
    - Validity Date

a) No access permits are issued to personnel who have not attended SHE induction. A copy of proof of SHE induction attendance must be presented at Security when applying for employee access permits.
b) The Contractor photocopies the first page of the ID book of every one of his employees.
c) This completed list, together with the photocopies of the ID books / valid Passport / Work Permit is delivered to Protective Services for the preparation of the Contractor's Permits.

d) The Contractor allows at least 48 hours for the preparation of the security permits, before he collects the permits from the Protective Services offices.
e) The Contractor's personnel are required to be in possession of a Contractor's Permit at all times inside Duvha Power Station.
f) All Contractor permits are submitted back to Protective Services when the workers leave the site after completion of the works. The Contractor will ensure that all its employees/workers return such permits to the Employer. Failure to return the permits will result in a R100, 00 penalties for each non returned permit which will be deducted from the final payment.
g) The Contractor compiles detailed Tool Lists (obtainable from Protective Services) of all tools and equipment to be taken on site before arriving at the power station.
h) Authorised copies of these lists are retained to be used again when the tools and equipment is removed from site.
i) The Contractor's visitors and all personnel conform to the security arrangements in force at Duvha Power Station.
j) Application forms for visitors are filled in by the Contractor's Representative and approved by the Employer, and submitted to the Employer's Protective Services office one day prior to the visit.
k) Visitors will not be allowed on site if the necessary forms are not in the possession of security staff.
l) The Employer's Security Manager may, with valid cause, remove any of the Contractor's personnel from the site, either temporarily or permanently. They may deny access to the site to any person whom, in the opinion of the said manager constitutes a security risk.
m) No unauthorised vehicles will be allowed on site. Only Contractor vehicles with displayed Contract Vehicle Permits disks will be allowed on site. Contract Vehicle Applications are directed to the Employer's Representative for consideration and approval.
n) The Contractor is restricted to the Site. The Contractor is forbidden to enter any other areas, and ensures that his employees abide by these regulations.
o) No recruiting of casual labour may be done on Eskom premises, including the area outside the Power Station Security Gate.
p) Security personnel may search any premises, property or person within the security area of Duvha Power Station
q) No photographic equipment will be allowed within the security area of the Power Station without obtaining permission. Application forms for such permission is available from the Security Services offices at the main entrance. Any person found in possession of such equipment will be prosecuted in terms of the National Key Point Act.

7.3 Security of Working Areas

The Contractor is responsible for the security and safe keeping of all Working areas and any associated Contractor's Equipment, Materials, Plant, Temporary Works and Employer's Equipment as may be located within those areas.
The Contractor will at all times comply with the National Key Points Act, 1980 (Act No. 102 of 1980) within the parameters of the power station. The Contractor's proposal for achieving this will be submitted to the Employer for review within 14 days of the starting Date and the Employer will respond within 14 days of receipt.

The National Keys Point requirements will not be applicable to areas that fall outside the boundaries of the Duvha Power Station fence parameter. The Contractor will be responsible for security and access control for the Working areas. The access control must be a biometric type with capability to store all information, data retrievable, must be accessible and be able to indicate who is at the Working areas at any point in time.

The Contractor will be responsible for keeping unauthorised persons out of the Working Areas. Authorised persons will be limited to the Contractor's personnel, the Employer's personnel, Others and any other personnel notified to the Contractor by (or on behalf of the Employer), as authorised personnel. In addition, the Contractor will fully acquaint himself and strictly comply with all the Employer's security regulations particularly with regard to personnel, Plant, Material and the Contractor's Equipment entering or leaving the Site.

7.4 Welfare Facilities

The Contractor is responsible for provision, accessibility, maintenance, disposal of waste within, and housekeeping of all welfare facilities within the Working Areas, which include but are not limited to ablution, eating, changing, shower and rest areas. As a minimum the following will be provided:

- Shower facilities;
- Sanitary facilities;
- Changing facilities;
- Eating areas;

The Contractor is responsible for the provision and maintenance of the ablution facilities provided for his employees on the Working and Laydown areas. Additional sufficient temporary ablution facilities need to be put up by the Contractor on working area at various levels. These must be serviced and maintained as per health standard pertaining to the health and safety of these facilities.

The Contractor will provide sheltered eating areas for use of all Contractors' personnel on Site. Eating areas will provide adequate shelter and will be ventilated and lighted. Tables and backed seating will be provided. Suitable receptacles with lids for depositing waste will be provided at convenient points inside and outside the eating areas.

The Contractor will ensure compliance to all legislation Eskom’s Food Hygiene and Safety Management - 39-113 procedure with respect to food management. Compliance will be verified during the client’s audits and inspections on the Contractor.

Welfare, Ablution and Dinning facilities provided by the Contractor must be approved and be acceptable to the Employer.

The Contractor is responsible for provision of suitable Ablution facilities within the Working areas, which as a minimum will meet all relevant legislation. These facilities are to be provided in sufficient quantities and within sufficient proximity to the Works so as not to impede the Works or the operations of the Duvha Power Station.The Contractor shall provide his own permanent and temporal Ablution facilities. The permanent toilets shall be erected and fully functionally by the access to site date.

The Contractor is responsible for the provision of all meals for employees, in line with all relevant legislation and standards. The Contractor is responsible for the provision of suitable eating areas and these facilities are to be provided in sufficient quantities and within sufficient proximity to the Works so as not to impede the Works or the operations of the Duvha Power Station.

The Contractor is not allowed to use the Employer's dining facilities, unless a specific agreement has been made between the Contractor and Eskom Catering and Accommodation Services (ECAS). The Contractor may buy take away meals from the fast foods outlet on Site.

7.5 People and Equipment Movement

a) Passenger or Goods Lift

The Employer will not provide any passenger or goods lift services.

b) Meetings

All meetings are to be recorded using minutes or a register, prepared and circulated by the person convening the meeting. Such minutes or register are not used for the purpose of confirming actions, instructions or determinations under the Contract as these are done separately by the person(s) identified in the conditions of contract to carry out such actions, instructions or determinations. All meetings will be as per the Employer's specified Project Control specification.

c) Permits

The Contractor will comply with the Generation Plant Safety Regulations 36-681 at all times. The Contractor will provide an acceptable number of authorised Responsible Persons in accordance with the Generation Plant Safety Regulations to ensure that no delays occur during the execution of the Works and removing of defects. Duvha Power Station Training will be the responsibility of the Contractor. Verification, examination and authorisation of the nominated persons will be the responsibility of the Employer and will be performed on dates nominated by the Employer. Should the Contractors nominated persons fail to achieve the required standards, any further training, verification, examination and approval will be the responsibility of the Contractor. The Contractor is to provide the proposed number of people to be authorised as a tender returnable.

8. Construction Rules

8.1 Works Stoppages

The *Contractor* will conduct a safety work stoppage for every LTI and fatality. Work Stoppages may include critical and high risk activities, suspension of work or part of the works by Eskom inspectorate Team or Department of labour inspectors. Suspension or withdrawal may be as a result of closure of Site/working area due to an accident/incident and non-compliance to procedure, legislative change and requirements. Activities may commence if the area is declared and certified safe for people to work. The Contractor shall have at least one work stoppage per quarter (every three months) for incident lessoned learn, risk analyses, review and incident reviews.

8.2 Critical activities

All rigging method statements, lift plans and other relevant documents will be reviewed by the Employer, prior to the relevant activity commencing. The review period for method statements is 14 days as provided on the Contract Data and if the Employer gives notice to the Contractor that a method statement fails to comply with the Contract, as per General Conditions Clause 5.2, it will be rectified and resubmitted within 7 days of notification.

Compliance to the use of PPE, parking on designated areas, adherence to smoking policy, and trespassing, entry and exist to restricted areas will be monitored by the Contractor.

8.3 Electronic devise usage

Cell phone usage will be in accordance with Eskom procedure 36-583. No cellphone or any other electronic devices will be used whilst conducting critical work, and high risks activities unless otherwise authorized by the Employer. Such communication devise exclude two-way radios and devises used for the works.

8.4 Respecting the Working areas

In order to provide a safe working environment and to respect all persons on the Site, the following are strictly forbidden:

- Spitting
- Urination (other than in designated toilets)
- Defecation (other than in designated toilets)
- Sexual Activities

The Employer will be entitled to immediately remove, or instruct the Contractor to immediately remove, any person for whom the Contractor is responsible for who is in violation of the above, in accordance with applicable contract conditions and/or other rules and regulations.

9. Environmental

9.1 Environmental Policy

The Contractor will implement, and provide a copy of, an Environmental Policy which complies with Environmental Management System ISO 14001 requirements. A copy of the applicable policy will be provided as a tender returnable.

9.2 Method Statements

No activity will commence before Method statement is approved by the Employer. The Method Statement will be submitted for acceptance by the Employer. All Method Statements will include, but not be limited to include, the following environmental information:

Detailed scope of work

- List of equipment to be used
- List of chemicals to be used with complete MSDS’s
- Risk Assessment of the Environmental Risks associated with the activities
- Management Plan of the identified significant risks
- Waste Management Plan
- Oil Spill Management Plan
- Incident reporting and management
- Layout plan approved by the Supervisor.
- Storm water management and erosion control plan

9.3 Environmental Management Programme

This Environmental Management Programme (EMPr) is prepared as part of the requirements of the 2010 Environmental Impact Assessment Regulations promulgated under the National Environmental Management Act (NEMA, Act 107 OF 1998) as amended 2010.

The purpose of this Construction EMPr is to provide an easily interpreted reference document that ensures that the project environmental commitments, safeguards and mitigation measures from the environmental planning documents, project approvals, and Scope of Works are implemented.

The objectives for the EMPr are:

a) To develop, implement and maintain effective management systems for the environmental aspects of the maintenance works;
b) To monitor effectiveness of controls aimed at preventing impacts associated with aspects
c) To ensure compliance with relevant legislation (National, Provincial and Local), regulatory requirements and environmental documents;
d) To maximise the value and outcomes of environmental monitoring activities so that the information can be applied to the planning and implementation of future projects;
e) To ensure that all Environmental Management considerations are implemented during the Construction only

The EMPr follows an approach of identifying an over-arching aim and objectives accompanied by management actions that are aimed at achieving these objectives. The EMPr is divided into five (5) phases of the project cycle:

- Planning and Design Phase;
- Construction and Site Preparation;
- Rehabilitation Phase;
- Operational Phase; and
- Project Closure.

Contractor to adhere with Project Environmental Management Plan (EMP), site information and other legislative requirements

9.4 Refuse Disposal

Waste disposal must be as per the ENV 0005

The Employer will provide special colour coded bins for refuse disposal. The Employer will be responsible for emptying these bins. The Contractor will ensure that all his personnel and SubContractors strictly adhere to the correct use of refuse bins, coloured coded as follows:

- Maroon bins:- Scrap metal only
- White bins: - Lagging and general household rubbish

- Yellow bins:- Ash, dust, coal dust and sand

For the entire duration of the Works, the Contractor is responsible for keep the Working Areas clean of any rubble, and to place all refuse into the bins provided.

10. Other reports and publicly available information

10.1 Weather Data

10.1.1 Geotechnical Data

Contractor is responsible for any Geotech required. The following geotechnical reports are provided as Appendices to this document:
Electricity Supply Commission- Report on the Additional Drilling for Proposed Remedial Works at the Main Station Building, Duvha Power Station November 1979, Parts 1 to 4
This is provided for information purposes only and the Contractor must verify before use.

a) General Weather Conditions

The climate of the site is typical of Highveld conditions, with high summer temperatures and moderate to cold winters. Temperature statistics for the climatically similar to Bethal was obtained from the South African Weather Service website (www.weathersa.co.za). The Contractor will consider whether condition within all working site including areas where procurement outside the working site is considered. Measuring device is available at Duvha and to be agreed upon by both parties.

Climatic conditions will be defined as exceptionally adverse only when the measured condition deviates from the supplied average data by a margin of 30%, over the time period as stated within the average data (e.g. daily or monthly)

b) Temperature

During the summer months (October to March) average daily maximum temperatures are between 24°C and 35°C and average daily minimum temperatures are between 0°C and 14°C.

In the winter months (April to September) average daily maximum temperatures vary between 17°C and 23°C and average daily minimum temperatures are between 1°C and 9°C.

c) Snow and mist

Frost occurs frequently during the winter and spring months. Temperature statistics for the climatically similar to Bethal was obtained from the South African Weather Service website (www.weathersa.co.za).

The number of days with mist (no visibility) measuring in excess of a predetermined number of days, the Employer will make a proposal during contract negotiations

All records will be kept.

d) Rainfall

The area experiences thunderstorms during the summer months, which usually occur in the late afternoons. The annual average precipitation (millimetres) is show below. Weather Data for 2011-2014 to be provided as an addendum

Month	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Jan	176	207	77.5	296	223.5	173	-	-	-	-	65
Feb	59	102	17	17	63.5	53	-	-	-	-	21.8
March	54	46	26	121	55	40	-	-	-	-	30.6
April	53	42	6	0	0	126	-	-	-	-	29.4
May	0	4.5	0	44	14	83	-	-	-	-	0
June	0	0	30	0	17	0	-	-	-	-	0.8
July	0	0	0	0	0	0	-	-	-	-	1
Aug	2	40	0	0	30.5	0	-	-	-	-	0.4
Sept	0	0	0	0	8	0	-	-	-	-	46.2
Oct	35.5	17.5	163	47	82.5	46.5	-	-	-	-	34.2
Nov	142	80	179	138.6	153	59.5	-	-	-	-	54.2
Dec	65	148.5	127.3	174	148	237	-	-	-	-	135.2
							-	-	-	-	
Total	**586.5**	**687.5**	**625.8**	**837.6**	**795**	**818**	-	-	-	-	**418.8**

e) Wind

The area is subject to winds predominantly from the north and northwest, with greatest frequency during the months of August to December. During the remainder of the year, the wind remains generally in a north/north westerly direction, but with a lesser frequency. Critical activities, carnage and working at height will be as per legislative requirements, equipment and