NEC3 Term Service Contract (TSC3)

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

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

for **Unblocking and CCTV inspection of Tutuka Drainage and Sewage Systems and Maintenance of Tutuka Stormwater Channel on an "as and when required" basis for a period of 5 years at Tutuka Power Station**

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

PART C1: AGREEMENTS & CONTRACT DATA

Contents:

C1.1 Form of Offer & Acceptance

Offer

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

Unblocking and CCTV inspection of Tutuka Drainage and Sewage Systems and Maintenance of Tutuka Stormwater Channel on an "as and when required" basis for a period of 5 years at Tutuka Power Station.:

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

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

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

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

Signature(s) .....

Name(s) .....

Capacity .....

For the tenderer: .....

(Insert name and address of organisation)

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

[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*.

Tenderer's CIDB registration number:

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: Service 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 and signed original copy of this document, including the Schedule of Deviations (if any).

Signature(s) .....

Name(s) .....

Capacity .....

for the *Employer* .....

(Insert name and address of organisation)

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

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

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

Note:

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

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

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

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

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

C1.2aTSC3 Contract Data

Part one - Data provided by the *Employer*

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

1. Please read the relevant clauses in the conditions of contract before you enter data. The number of the clause which requires the data is shown in the left hand column for each statement however other clauses may also use the same data.

2. Some TSC3 options are always selected by Eskom Holdings SOC Ltd. The remaining TSC3 options are identified by shading in the left hand column. In the event that the option is not required select and delete the whole row. Where the following symbol is used "**[●]" -** data is required to be inserted relevant to the specific option selected.]

Completion of this 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 price list
	dispute resolution Option	**W1: Dispute resolution procedure**
	and secondary Options	
		X1: Price adjustment for inflation
		X2 Changes in the law
		X17: Low service damages
		X18: Limitation of liability
		X19: Task Order
		X20: Key performance indicators
		Z: *Additional conditions of contract*
	of the NEC3 Term Service Contract April 2013[2] (TSC3)	
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**

[2] Available from Engineering Contract Strategies Tel 011 803 3008 Fax 086 539 1902 www.ecs.co.za

	Tel No.	**[●]**
	Fax No.	**[●]**
10.1	The *Service Manager* is (name):	**[●]**
	Address	**[●]**
	Tel	**[●]**
	Fax	**[●]**
	e-mail	**[●]**
11.2(2)	The Affected Property is	**Tutuka Power Station**
11.2(13)	The *service* is	**Unblocking & CCTV inspection of Tutuka drainage and sewage systems, and maintenance of Tutuka stormwater channels on an "as and when required" basis**
11.2(14)	The following matters will be included in the Risk Register	• **Schedule compliance** • **Re-works due to poor quality of workmanship** • **Adverse weather conditions causing delays** • **Inadequate access to drain locations** • **Exposure to hazardous materials in drains** • **Equipment failure** • **Environmental contamination** • **Injury to personnel during manual clearing** **Risk register is in Annexure B of this contract document**
11.2(15)	The Service 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	**Three (3) working days**
2	**The *Contractor*'s main responsibilities**	**Data required by this section of the core clauses is also provided by the *Contractor* in Part 2 and terms in italics used in this section are identified elsewhere in this Contract Data**
21.1	The *Contractor* submits a first plan for acceptance within	**3 days of receiving the Task Order**
3	**Time**	
30.1	The *starting date* is.	**TBC**

30.1	The *service period* is	**60 Months**
4	**Testing and defects**	**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**
5	**Payment**	
50.1	The *assessment interval* is	**As and when required or on completion of each task**
51.1	The *currency of this contract* is the	**South African Rand**
51.2	The period within which payments are made is	**30 days**
51.4	The *interest rate* is	**the publicly quoted prime rate of interest (calculated on a 365 day year) charged by 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**	**Tasks or scope of work, or appendices or annexures not included in this contract after contract award**
7	**Use of Equipment Plant and Materials**	**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	**None**

9	**Termination**	**NEC3 TSC Core Termination Clauses will be applied during Termination.**
10	**Data for main Option clause**	
A	**Priced contract with price list**	
20.5	The *Contractor* prepares forecasts of the final total of the Prices for the whole of the *service* at intervals no longer than	**4 weeks**
53.3	The *Contractor*'s share is assessed on (dates)	
11	**Data for Option W1**	
W1.1	The *Adjudicator*	**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 Institution of Civil Engineers (London) (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	**[●] 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	The *base date* for indices is	**The month prior the closing date of this enquiry**
	The proportions used to calculate the Price Adjustment Factor are:	**proportion** / **linked to index for** / **Index prepared by** **0.** / **[●]** / **[●]** **0.** / **[●]** / **[●]** **0.** / **[●]** / **[●]** **0.** / **[●]** / **[●]** **0.** / **[●]** / **[●]** **15%** / **non-adjustable** **100**
X2	**Changes in the law**	**of the Republic of South Africa is a compensation event if it occurs after contract award**
X17	**Low service damages**	
X17.1	The *service level table* is in	**Appendix A of this document under service information**
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 of an item of Equipment 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 insurance (other than the resulting physical damage to the *Employer*'s property which is not excluded) plus the applicable deductibles**
X18.4	The *Contractor*'s total liability to the *Employer*, for all matters arising under or in connection with this contract, other than the 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, plan and**

		specification, • **Defects due to manufacture and fabrication outside the Affected Property,** • **loss of or damage to property (other than the *Employer*'s property, 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	**12 months after the end of the *service* period.**
X19	**Task Order**	
X19.5	The *Contractor* submits a Task Order programme to the *Service Manager* within	**1 week of receiving the Task Order**
X20.1	The *incentive schedule* for Key Performance Indicators is in	**No incentive schedules** **No incentives will be paid out for Key performance indicators. KPI's are there to monitor performance of this contract** **Key performance indicators table is in annexure C of this contract document**
X20.2	A report of performance against each Key Performance Indicator is provided at intervals of	**6 months**
Z	**The *additional conditions of contract* are**	**Z1 to Z14 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 *Service 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 *Service Manager* within thirty days of the notification or as otherwise instructed by the *Service 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 Service.

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 P4 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 *Service 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 Affected Property or any portion thereof, in the course of Providing the Service and after the end of the *service period*, requires the prior written consent of the *Service Manager*. All rights in and to all such images vests exclusively in the *Employer*.

Z4.5 The *Contractor* ensures that all his *subContractor*s 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 *Service Manager* 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 *service*. 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 Affected Property.
- 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 the *service*; and
- undertakes, in and about the execution of the *service*, 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 *SubContractor*s, 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 *service*, complies with all applicable environmental laws and regulations and rules, guidelines and procedures otherwise provided for under this contract and ensures that his *SubContractor*s, 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 *Service 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 Service 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 the last paragraph of core clause 61.3 and replace with:

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

Z9 *Employer's* limitation of liability

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

Z9.2 The *Contractor*'s entitlement under the indemnity in 82.1 is provided for in 60.1(12) and the *Employer*'s liability under the indemnity is limited to compensation as provided for in core clause 63 and X19.11 if Option X19 Task Order applies to this contract.

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 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 *SubContractor*s 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*s 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.

Z11.1 A Committing Party may not take any Prohibited Action during the course of the procurement of this contract or in execution thereof.

Z11.2 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.

Z11.3 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.

Z11.4 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.

Z12 Insurance

Z_12_.1 Replace core clause 83 with the following:

Insurance cover 83

83.1 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.

83.2 The *Contractor* provides the insurances stated in the Insurance Table A from the *starting date* until the earlier of Completion and the date of the termination certificate.

INSURANCE TABLE A

Insurance against	Minimum amount of cover or minimum limit of indemnity
Loss of or damage caused by the *Contractor* to the *Employer*'s property	The replacement cost where not covered by the *Employer*'s insurance. The *Employer*'s policy deductible as at Contract Date, where covered by the *Employer*'s insurance.
Loss of or damage to Plant and Materials	The replacement cost where not covered by the *Employer*'s insurance. The *Employer*'s policy deductible as at Contract Date, where covered by the *Employer*'s insurance.
Loss of or damage to Equipment	The replacement cost where not covered by the *Employer*'s insurance. The *Employer*'s policy deductible as at Contract Date, where covered by the *Employer*'s insurance.
The *Contractor*'s liability for loss of or damage to property (except the *Employer*'s property, Plant and Materials and Equipment) and liability for bodily injury to or death of a person (not an employee of the *Contractor*) arising from or in connection with the *Contractor*'s Providing the Service	Loss of or damage to property The replacement cost Bodily injury to or death of a person The amount required by the applicable law.
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 applicable law

Z 12.2 Replace core clause 86 with the following:

Insurance by the *Employer*

86

86.1 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 lir 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

Z13 Nuclear Liability

Z13.1 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.

Z13.2 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*.

Z13.3 Subject to clause Z13.4 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*.

Z13.4 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.

Z13.5 The protection afforded by the provisions hereof shall be in effect until the KNPS is decommissioned.

Z14 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, normalized to the baseline of a 4 hour continuous period, also applicable to short term exposures, i.e. 10-minute TWA.

Z14.1 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.

Z14.2 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 Z14.1. Control measures conform to the requirements stipulated in the AAIA-approved asbestos work plan.

Z14.3 The *Employer* manages asbestos and ACM according to the Standard.

Z14.4 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.

Z14.5 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.

Z14.6 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.

Z14.7 Any removal and disposal of asbestos, asbestos containing materials and waste, is done by a registered asbestos *Contractor*, instructed by the *Employer* at the *Employer*'s expense, and conducted in line with South African legislation.

C1.2b Contract Data

1 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(14)	The following matters will be included in the Risk Register	
11.2(15)	The Service Information for the *Contractor*'s plan is in:	
21.1	The plan identified in the Contract Data is contained in:	
24.1	The key people are: 1 Name: Job: Responsibilities: Qualifications: Experience: 2 Name: Job Responsibilities: Qualifications: Experience:	

		CV's (and further key person's data including CVs) are in .
A	**Priced contract with price list**	
11.2(12)	The *price list* is in	
11.2(19)	The tendered total of the Prices is	**R**

PART 2: PRICING DATA

TSC3 Option A

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

.

C2.1 Pricing assumptions: Option A

2 How work is priced and assessed for payment

Clause 11 in NEC3 Term Service Contract (TSC3) core clauses and Option A states:

Identified and defined terms 11 11.2 (12) The Price List is the *price list* unless later changed in accordance with this contract.

(17) The Price for Services Provided to Date is the total of

- the Price for each lump sum item in the Price List which the *Contractor* has completed and
- where a quantity is stated for an item in the Price List, an amount calculated by multiplying the quantity which the *Contractor* has completed by the rate.

(19) The Prices are the amounts stated in the Price column of the Price List. Where a quantity is stated for an item in the Price List, the Price is calculated by multiplying the quantity by the rate.

This confirms that Option A is a priced contract where the Prices are derived from a list of items of service which can be priced as lump sums or as expected quantities of service multiplied by a rate or a mix of both.

3 Function of the Price List

Clause 54.1 in Option A states: "Information in the Price List is not Service Information". This confirms that instructions to do work or how it is to be done are not included in the Price List but in the Service Information. This is further confirmed by Clause 20.1 which states, "The *Contractor* Provides the Service in accordance with the Service Information". Hence the *Contractor* does **not** Provide the Service in accordance with the Price List. The Price List is only a pricing document.

4 Link to the *Contractor*'s plan

Clause 21.4 states "The *Contractor* provides information which shows how each item description on the Price List relates to the operations on each plan which he submits for acceptance". Hence when compiling the *price list*, the tendering *Contractor* needs to develop his first clause 21.2 plan in such a way that operations shown on it can be priced in the *price list* and result in a satisfactory cash flow in terms of clause 11.2(17).

5 Preparing the *price list*

Before preparing the *price list*, both the *Employer* and tendering *Contractor*s should read the TSC3 Guidance Notes pages 14 and 15. In an Option A contract, either Party may have entered items into the *price list* either as a process of offer and acceptance (tendering) or by negotiation depending on the nature of the *service* to be provided. Alternatively 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 the *price list* to be prepared and priced by him.

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It is assumed that in preparing or finalising the *price list* the *Contractor:*

- Has taken account of the guidance given in the TSC3 Guidance Notes relevant to Option A;
- Understands the function of the Price List and how work is priced and paid for;
- Is aware of the need to link operations shown in his plan to items shown in the Price List;
- Has listed and priced items in the *price list* which are inclusive of everything necessary and incidental to Providing the Service in accordance with the Service 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 item within the Prices or rates of other listed items in order to fulfil the obligation to complete the *service* for the tendered total of the Prices.
- Understands there is no adjustment to items priced as lump sums if the amount, or quantity, of work within that item later turns out to be different to that which the *Contractor* estimated at time of tender. The only basis for a change to the (lump sum) Prices is as a result of a compensation event.

5.1 Format of the *price list*

(From the example given in an Appendix within the TSC3 Guidance Notes)

Entries in the first four columns in the *price list* in section C2.2 are made either by the *Employer* or the tendering *Contractor*.

If the *Contractor* is to be paid an amount for the item which is not adjusted if the quantity of work in the item changes, the tendering *Contractor* enters the amount in the Price column only, the Unit, Expected Quantity and Rate columns being left blank.

If the *Contractor* is to be paid an amount for an item of work which is the rate for the work multiplied by the quantity completed, the tendering *Contractor* enters the rate which is then multiplied by the Expected Quantity to produce the Price, which is also entered.

If the *Contractor* is to be paid a Price for an item proportional to the length of time for which a service is provided, a unit of time is stated in the Unit column and the expected length of time (as a quantity of the stated units of time) is stated in the Expected Quantity column.

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C2.2 the *price list*

BILL OF QUANTITIES

ITEM		DESCRIPTION	UNIT	QTY	RATE	AMOUNT
1.0		**PRELIMINARY & GENERAL**				
1.2		**Establishment of facilities on site**				
1.2.1		Offices Engineer, Staff & storage sheds and workshop	Sum	1		
1.2.2		Ablution & latrine facilities	Sum	1		
1.2.3		Tools and Equipment	Sum	1		
1.2.4		Yellow Plant	Sum	1		
1.2.5		Removal of site establishment	Sum	1		
1.2.7		PPE	Sum	1		
1.2.8		Health and safety file	Sum	1		
1.2.9		*Contractor*'s obligations in respect of the Occupational Health and Safety Act	Sum	1		

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ITEM		**DESCRIPTION**	**UNIT**	**QTY**	**RATE**	**AMOUNT**
1.3		**Scheduled time related items**				
1.3.1		Living Accommodation	month			
1.3.2		Tools and Equipment	month			
1.3.3		Yellow Plant	month			
1.3.4		Supervision for the duration of the construction	month			
1.3.5		Engineer's fees	month			
1.3.6		Semi skilled	month			
1.3.7		Safety officer	month			
1.3.8		Site supervisor	month			
1.3.9		General workers	month			
TOTAL BILL NO.1: PRELIMINARY & GENERAL						
ITEM		**DESCRIPTION**	**UNIT**	**QTY**	**RATE**	**AMOUNT**
2.0		**SITE WORKS**				

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		STATION DRAINAGE CLEANING				
2.1		**BOILER BASEMENT Unit 1- 6**				
2.1.1		Site investigations	each			
2.1.2		Opening and closure of manholes	sum			
2.1.3		CCTV inspection of trenches	m			
2.1.4		Unblocking and cleaning of trenches (High pressure cleaning)	m			
2.1.5		Unblocking and cleaning of trenches manually	m			
2.1.6		Site Rehabilitation	sum			
2.1.7		Removal and Disposal of Ash debris	m			
2.1.8		Provision of technical reports and drawings	each			
2.2		**CABLE TUNNEL (x2)**				
2.2.1		Site investigations	each			
2.2.2		Opening and closure of manholes	sum			
2.2.3		CCTV inspection of trenches	m			
2.2.4		Unblocking and cleaning of trenches (High pressure cleaning)	m			
2.2.5		Unblocking and cleaning of trenches manually	m			
2.2.6		Site Rehabilitation	sum			

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2.2.7		Removal and Disposal of Ash debris	m			
2.2.8		Provision of technical reports and drawings	each			
2.3		**QUENCH AND RECOVERY SUMPS Unit 1- 6**				
2.3.1		Site investigations	each			
2.3.2		Opening and closure of manholes	sum			
2.3.3		CCTV inspection of trenches	m			
2.3.4		Unblocking and cleaning of trenches (High pressure cleaning)	m			
2.3.5		Unblocking and cleaning of trenches manually	m			
2.3.6		Site Rehabilitation	sum			
2.3.7		Removal and Disposal of Ash debris	m			
2.3.8		Provision of technical reports and drawings	each			
2.4		**ASH RECOVERY SILT TRAPS**				
2.4.1		Site investigations	each			
2.4.3		CCTV inspection of outlet pipe to station drain	m			
2.4.4		Unblocking and cleaning of trenches (High pressure cleaning) station drain 3	m			
2.4.5		Site Rehabilitation	sum			
2.4.6		Removal and Disposal of Ash debris	m			
2.4.7		Provision of technical reports and drawings	each			

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2.5		**WATERTREATMENT PLANT**				
2.5.1		**WTP Station drains**				
2.5.2		Site investigations	each			
2.5.3		Opening and closure of manholes	sum			
2.5.4		CCTV inspection of drain	m			
2.5.5		Unblocking and cleaning of trenches (High pressure cleaning)	sum			
2.5.6		Unblocking and cleaning of trenches manually	sum			
2.5.7		Site Rehabilitation	sum			
2.5.8		Removal and Disposal of debris	m			
2.5.9		Provision of technical reports and drawings	each			

		WTP Pipe trench				
2.5.10		Site investigations	each			
2.5.12		Unblocking and cleaning of trenches (High pressure cleaning)	m			
2.5.13		Unblocking and cleaning of trenches manually	m			
2.5.14		Site Rehabilitation	sum			
2.5.15		Removal and Disposal of Ash debris	m			
2.5.16		Provision of technical reports and drawings	each			

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2.6		**Building cable tunnels& drain pipe**				
2.6.1		Site investigations	each			
2.6.2		Unblocking and cleaning of tunnel (High pressure cleaning)	m			
2.6.3		Unblocking and cleaning of tunnel manually	m			
2.6.4		Site Rehabilitation	sum			
2.6.5		Removal and Disposal of debris	m			
2.6.6		Provision of technical reports and drawings	each			
2.6.7		Repair on concrete channel	sum			
2.6.8		CCTV inspection of drainpipe (downstream)	m			
2.6.9		Unblocking of drainpipe (downstream)	m			
2.6.10		Repair of internal damage of drain pipe	sum			
2.7		**ASH DUMP DRAINAGE (CWD1-3)**				
2.7.1		Site investigations	each			
2.7.2		Inspection of channels	m			
2.7.3		Unblocking and cleaning of channels (High pressure cleaning)	m			
2.7.4		Unblocking and cleaning of channels manually	m			
2.7.5		Site Rehabilitation	sum			

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2.7.6		Removal and Disposal of Ash debris	m			
2.7.7		Provision of technical reports and drawings	each			
		COAL STOCK DIRTY WATER				
2.8		**Channels (CS DWC A1-3, B1-3, C)**				
2.8.1		Site investigations	each			
2.8.2		Inspection of channels	m			
2.8.3		Unblocking and cleaning of channels (High pressure cleaning)	m			
2.8.4		Unblocking and cleaning of channels manually	m			
2.8.5		Site Rehabilitation	each			
2.8.6		Removal and Disposal of debris	m			
2.8.7		Provision of technical reports and drawings	each			
2.8.8		**Drains at Conveyors 12-15**				
2.8.9		Site investigations	each			
2.8.10		CCTV Inspection of drains	m			
2.8.11		Unblocking and cleaning of channels (High pressure cleaning)	m			
2.8.12		Unblocking and cleaning of channels manually	m			
2.8.13		Site Rehabilitation	sum			

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2.8.14		Removal and Disposal of debris	m			
2.8.15		Provision of technical reports and drawings	each			
2.9		**OUTSIDE STATION DRAINAGE TO TERRACE DAMS**				
2.9.1		**North Clean Water channels (CWC 1a,c, 2a-e)**				
2.9.1.1		Site investigations	each			
2.9.1.2		Inspection of channels	sum			
2.9.1.3		Unblocking and cleaning of channels (High pressure cleaning)	m			
2.9.1.4		Unblocking and cleaning of channels manually	m			
2.9.1.5		Site Rehabilitation	sum			
2.9.1.6		Removal and Disposal of Ash debris	m			
2.9.1.7		Provision of technical reports and drawings	each			
2.9.2		**DB Thermal Dam**				
2.9.2.1		**Concrete pipe (road crossing) DBT2**				
2.9.2.2		Site investigations	each			
2.9.2.3		CCTV Inspection of pipe	m			
2.9.2.4		Unblocking and cleaning of pipe (High pressure cleaning)	m			
2.9.2.5		Site Rehabilitation	sum			
2.9.2.6		Removal and Disposal of debris	m			

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2.9.2.7		Provision of technical reports and drawings	each			
		Channels DBT1a-b,T2				
2.9.2.8		Site investigations	each			
2.9.2.9		Inspection of channels	m			
2.9.2.10		Unblocking and cleaning of channels (High pressure cleaning)	m			
2.9.2.11		Unblocking and cleaning of channels manually	m			
2.9.2.12		Site Rehabilitation	sum			
2.9.2.13		Removal and Disposal of Ash debris	m			
2.9.2.14		Provision of technical reports and drawings	each			
2.9.3		**Stein muller Dam** **Channels (SM1a-d)**				
2.9.3.1		Site investigations	each			
2.9.3.2		Inspection of channels	m			
2.9.3.3		Unblocking and cleaning of channels (High pressure cleaning)	m			
2.9.3.4		Unblocking and cleaning of channels manually	m			
2.9.3.5		Site Rehabilitation	sum			
2.9.3.6		Removal and Disposal of Ash, effluent, coal debris	m			
2.9.3.7		Provision of technical reports and drawings	each			

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2.9.4		**Dirty Water Dam** **Channels (SD1-5) & SD5 Pipe at road crossing**				
2.9.4.1		Site investigations	each			
2.9.4.2		Inspection of channels	m			
2.9.4.3		Unblocking and cleaning of channels (High pressure cleaning)	m			
2.9.4.4		Unblocking and cleaning of channels manually	m			
2.9.4.5		Site Rehabilitation	sum			
2.9.4.6		Removal and Disposal of Ash, effluent, coal debris	m			
2.9.4.7		Provision of technical reports and drawings	each			
2.10		**<u>TUTUKA SEWERAGE SYSTEMS</u>** **(PS 55c,59c,107c,77c)**				
2.10.1		Site investigations and assessment	each			
2.10.2		CCTV Inspections	m			
2.10.4		Unblocking and cleaning of pipes (High pressure cleaning)	m			
2.10.5		Site Rehabilitation	sum			
2.10.6		Removal and Disposal of Ash, effluent,	m			

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		coal debris				
2.10.7		Provision of technical reports and drawings	each			
2.11		**EMERGENCY ASHING AREAS TT01&TT02**				
2.11.1		Site investigations	each			
2.11.2		Inspection of channels	m			
2.11.3		Unblocking and cleaning of channels (High pressure cleaning)	m			
2.11.4		Unblocking and cleaning of channels manually	m			
2.11.5		Site Rehabilitation	sum			
2.11.6		Removal and Disposal of Ash debris	m			
2.11.7		Provision of technical reports and drawings	each			
2.12		**COAL SILOS DRAINS AND SILT TRAPS**				
2.12.1		Site investigations and assessment	each			
2.12.2		CCTV Inspections of drains	m			
2.12.3		Unblocking and cleaning of drains (High pressure cleaning)	m			
2.12.4		Cleaning of V-drains (High pressure cleaning)	m			

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2.12.5		Site Rehabilitation	sum			
2.12.6		Removal and Disposal of debris	m			
2.12.7		Provision of technical reports	each			
TOTAL BILL NO.2: SITE WORKS					**R**	
ITEM		**DESCRIPTION**	**UNIT**	**QTY**	**RATE**	**AMOUNT**
3.0		**PROVISIONAL SUMS**				
3.2	SANS LD 8.2.2	Repairs on pipes (PVC)	m			
3.3		Sewer Pit 10c	sum			
3.4		Manhole 10c	sum			
3.5		Shoring and supporting existing structures during and after excavation for the works	sum			
3.6		Providing temporary pump/s and pipes to divert drainage water away from the site	sum			
Total BILL NO.3: PROVISIONAL SUMS					**R**	
TOTAL TENDERED AMOUNT EXCLUDING VAT					**R**	

Note:

- **No totalling of tendered prices should be inserted by *Contractor*, *Contractor* to supply unit price only.**
- **Cost breakdown must be included with *price list*. Labour costs to be incorporate into the above prices**

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- **Cost Price Adjustment (CPA) will be fixed and firm for the first year. CPA will be applicable from 16 months after tender closure date, using SEIFSA table with base date prior the closing month of the enquiry. 15% will be fixed for the duration of the contract. CPA proportions to be submitted with Tender Returnables.**

  Security / Criminal Clearance Check

  - **Acceptance of this tender is subject to the condition that both the contracting company's management and its employees will provide Eskom with a clear criminal record not older than thirty (30) days from a reputable screening company. If the principal *Contractor* appoints a sub*Contractor*, the same provisions and measures will apply to the sub*Contractor*.**

  - **Acceptance of the tender is also subject to the condition that the *Contractor* will implement all such security measures for the safe performance of the work as required in the scope of the contract.**

  - ***Contractor*s are to submit proof of verification record(s) (Security clearance) from SAPS or accredited supplier linked to SAPS AFIS system not older than thirty (30) days, as part of Risk Management process in order to curb any threats against the Installation. It is compulsory for these documents to be submitted to Security for verification before access to site is granted. Only individuals with clear criminal records will be considered.**

  - ***Contractor*s are required to submit the SAPS Clearance Certificate obtained by the employee along with a copy of his/her Identity Document or Passport to the site Security Manager. The Security Manager is required to verify the authenticity of the CRC Certificate with SAPS and to cross reference the employee seeking access against known HR databases and site databases to determine if the employee in question has in the past participated in disruptive labour actions and if the individual was dismissed from Eskom and the reason for such dismissal.**

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PART 3: SCOPE OF WORK

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

C3.1: *EMPLOYER*'S SERVICE INFORMATION

Contents

1 Description of the *service*

1.1 Executive overview

The dirty water drainage at the station has recurring blockages which results in ash, water and steam flowing into the cable tunnels and station's MV switchgear rooms thus posing a safety and production risk to the station. Blockages inside the dirty water drains pose a risk of further compromising the structural integrity of the concrete pipes with the possibility of developing sinkholes, pollution to underground water and unwanted leakages and overflows. Furthermore, the outside drainage also has recurring blockages, which prevents the stormwater and dirty water drainage system running effectively and efficiently.

The drainage system at Tutuka Power Station consist of underground concrete piping, trenches, concrete culverts, concrete surface channels and earth channels It is critical for the Tutuka Power Station drainage system to be unblocked and CCTV inspected regularly.

In addition to the station drains, the power station's sewage network is also experiencing blockages, this is evident by the minimal inflow at the Tutuka sewage treatment plant. The unblocking and CCTV inspection scope of work must also cover the approximately 8km sewage network**.**

Purpose

The purpose of this document is to outline the scope of work required to establish a long-term contract (As and when required) for the Unblocking & CCTV Inspection of the Tutuka Drainage and Sewage Systems, and Maintenance of Tutuka Stormwater Channels.

1.1 SCOPE OF WORK

a) The scope of work is associated with a long-term contract (As and when required) for the Unblocking & CCTV Inspection of the Tutuka Drainage and Sewage Systems, Maintenance of Tutuka Stormwater Channels and Silt Traps and any other drains as requested by *Employer.*
b) The boundary of the dirty water drains, trenches, channels and silt traps includes but not limited to:

Tutuka Power Station comprises of several drainage systems which is broken up into station drains and outside station drainage. Listed below are the different areas which form part of the station drains and outside station drainage.

1.1.1 Unit 1-6 Boiler Basement

The boiler basement is located on the 0m level of Tutuka power station, the boiler basement consists of floor washing (surface) trenches, which collects run off water and ash via the surface trenches which are covered by steel gratings along the length of the trenches. These trenches are often blocked and overflow onto the basement floor, which causes excess water, and mud to regularly collect on the basement floors, floor ashing also has a major impact on these trenches being blocked, therefore it is important for these trenches to be unblocked and cleaned in order to maintain the order of the plant. Figure 1 below shows the trenches for Unit 1, *Contractor* to take note that the figure below is the layout of trenches for 1 unit, the unblocking and cleaning of trenches will be done for unit 1-6, the layout of the trenches is repetitive across all six units.

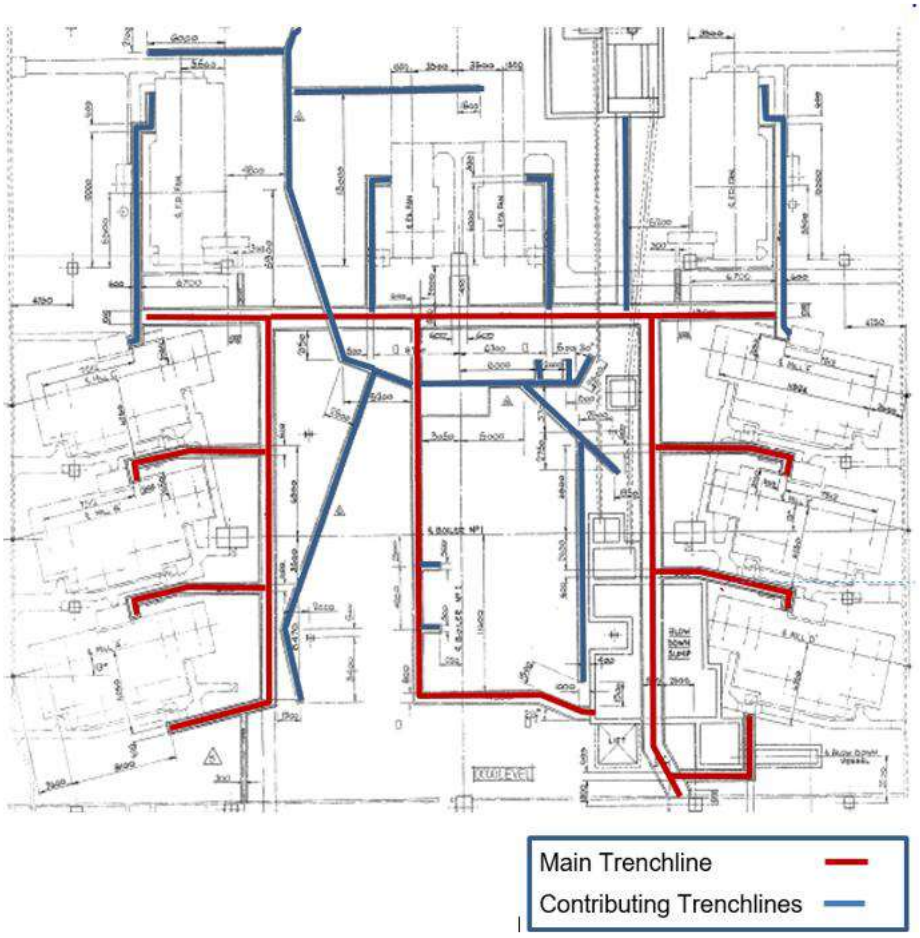

Figure 1: The trenches for Unit 1 (Drawing 0.61_02385_REV_6 Boiler 0ml Trench layout)

1.1.2 Unit 1-6 Cable Tunnels

Tutuka Power Station is equipped with cable tunnels for each unit 1-6, there are storm water channels present in the cable tunnels which require to be unblocked regularly due to ash build up. There is a main drain at each cable tunnel where unblocking and CCTV inspections can be done, *Contractor* to arrange access with Civil maintenance when working in the cable tunnels, there are limited drawings available for the cable tunnel area hence the *Contractor* will be responsible for conducting their own assessment of the drainage system.

1.1.3 Unit 1-6 Quenching and Recovery Sumps

There are quenching sumps and recovery sumps at Tutuka Power Station for each of the 6 Units, these sumps are often blocked and overflow due to the build-up of ash in the pipelines, Figure 2 below shows the system of flow for the quenching and recovery sumps. The quenching sump receives hot water from the

BDV, which then goes through three sections present in the quenching sump for cooling to take place, from the quenching sump, the water reports to the recovery sump where it then reports to the main drain line of the Dust Handling plant. Blockages can cause these sumps to overflow and in some cases, backflow, which results in steam ingress into the switchgear, rooms at Tutuka Power Station, this could possibly result in a Unit trip, which affects production

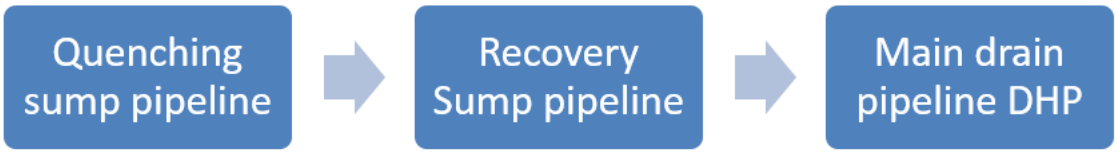

Figure 2: System Operation Process

1.1.4 Ash Recovery Silt Traps

Tutuka power station has one silt trap for each unit and a total of 6 ash recovery silt traps. They are located between the dust hoppers at the dust handling plant and the Induced Draught Fans at the southern part of the station as seen in Figure 3.

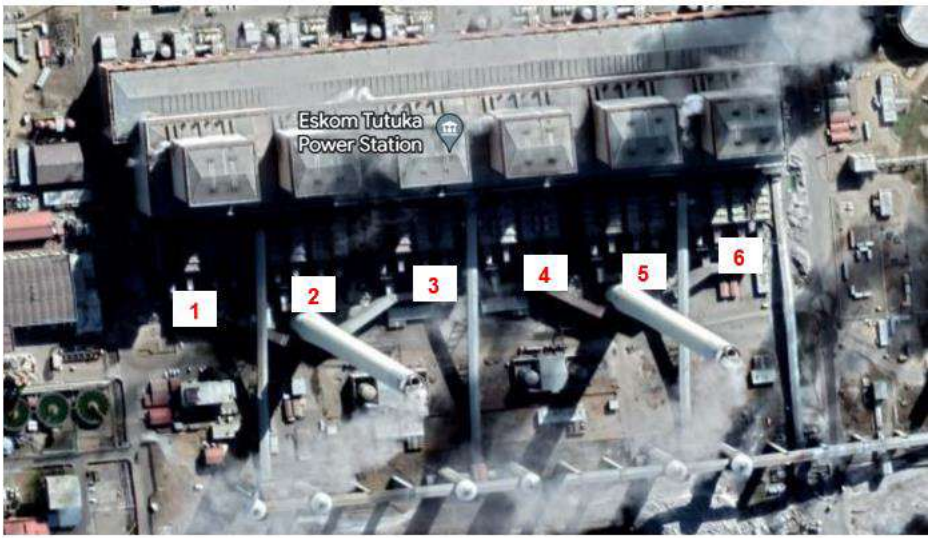

Figure 3: Ash Recovery Silt Traps

The function of these ash recovery silt traps is to collect and allow ash water to stagnate leading to sedimentation of the ash. The silt is then removed on an as and when needed basis. The water then cascaded into an overflow compartment to a pipe which transports the water to the SD3 Station Drain mentioned in Section 4.7.4 and shown in Figure 16. Furthermore, Figure 4 & 5 displays the Ash Recovery Silt Trap layout and outlet pipe respectively.

Figure 4: Layout of Ash Recovery Silt Trap

Figure 5: Outlet Pipe to Station Drains

1.1.5 Water Treatment Plant (WTP) Station Drains & Pipe Trenches

Tutuka Power Station has its own Water Treatment Plant (WTP) where it purifies raw water for portable water and demineralized water. Demineralization is the process of removing ions from water. Demineralized water is used to generate steam at the unit boilers. There are three Demin trains at the Water Treatment Plant. The trains are made up of cation bed (where positive ions are removed), anion beds (where negative ions are removed), mix beds (where remaining (-) and (+) ions are removed, degas sumps (where gases are removed) etc. The WTP is located at the west side of the station close to unit one as shown in Figure 6.

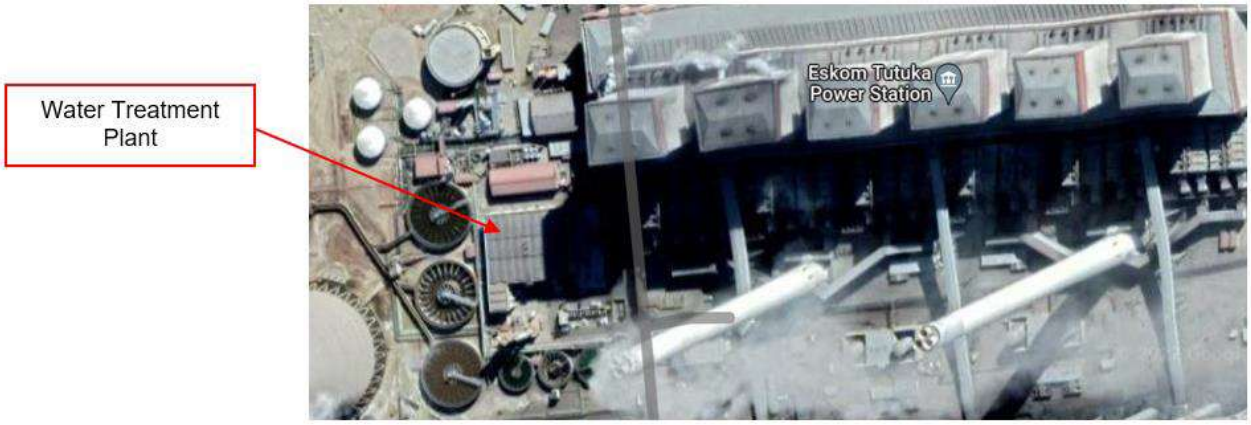

Figure 6: Water Treatment Plant

The drainage system at the WTP is fundamental in ensuring the plant runs in an optimal way. The WTP floor is equipped with pipe drains and trenches to drain away water spillages occurring at the WTP building [26 & 27]. The detailed drainage system and configuration drawings are listed in Section 6.2 (13-16). Furthermore water leaks from the WTP also end up in the pipe trenches. Figure below shows the cross-section of the concrete pipe trenches with dimensions.

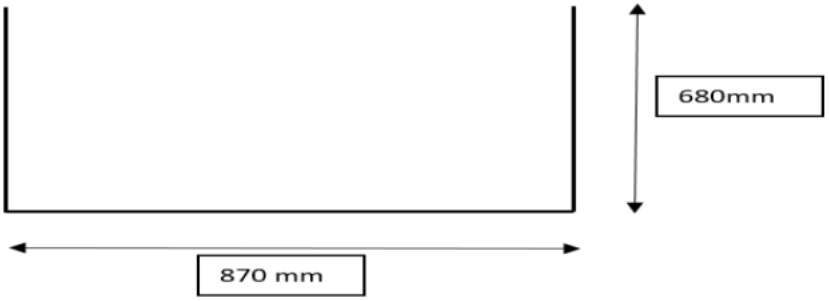

Figure 7: Cross-Section of the Concrete Pipe Trenches

Furthermore, the large concrete lined pipe trench between the water treatment plant and the access road at the east of the station contains vegetation and blockages which are required to be removed. It is crucial that this pipe trench is maintained as many important service pipes are located within it. This concrete lined pipe trench route can be seen in Figure 8. Water inflow in this pipe trench is mainly from leaks from the pipes located within it and this water then flows into the station drains and eventually into the Dirty Water Dam.

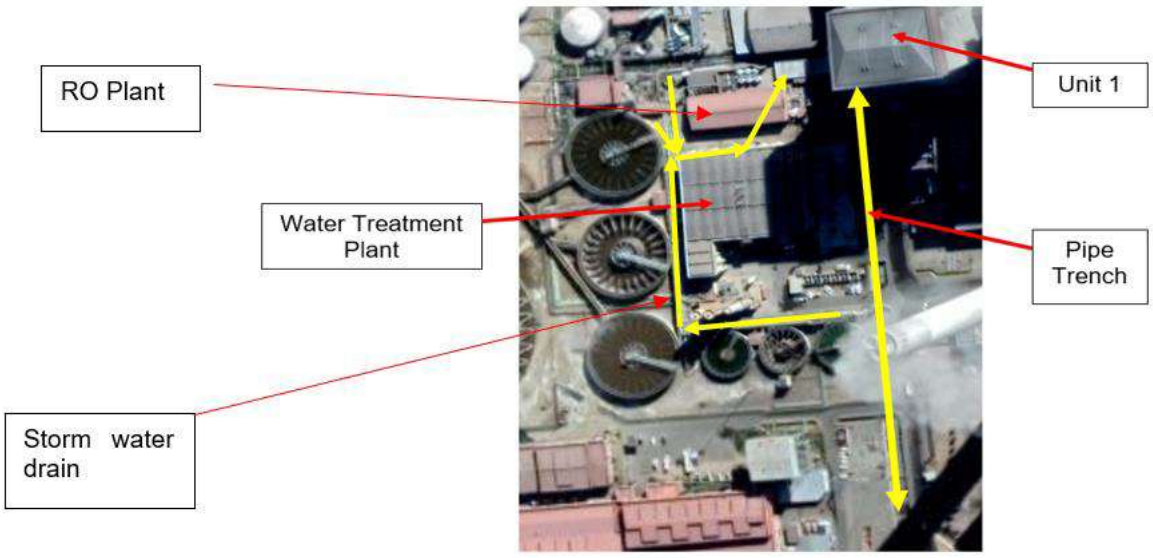

Figure 8: Pipe Trenches

A similar trench [Figure 9] is located adjacent the RO plant, the *Contractor* to refer to drawing no. [25]. In addition to these trenches, there is a buried storm water drainage system as indicated in Figure 8 above. This drainage system falls under the *Contractor*'s Scope of CCTV inspection and unblocking. The *Contractor* to refer to drawing no. [23&24] for the actual details of the drainage system.

Figure 9: Pipe Trenches

1.1.6 Water Treatment Plant (WTP) Building Cable Tunnels

There are also Cable tunnels underneath the Water Treatment Plant building. These tunnels are equipped with trenches along the edges as shown in drawing no. [26, 27 & 28]. Accumulation of debris in these trenches has been witnessed. The debris hinder the smooth drainage of any water that find its way to these tunnels. The *Contractor* to inspect these and unblock as and when required. In addition, aggressive water from the WTP processes has made its way to these trenches and damaged the concrete surface of the trenches. The damage is visible on the abovementioned trenches, however, due to access constraints, the

drainpipe downstream these trenches (north of WTP building) cannot be inspected visually, CCTV inspection is required to determine the incurred damage in the internal of this pipe.

1.1.7 Ash Dump Drainage

The ash dump is located to the east of the power station along the R38 Bethal Road. The ash dump is responsible for storing ash, which is a by-product of the power generation process. The ash is transported to the ash dump via a network of conveyor belts, which are pivotal to the operation of the ash dump. Furthermore, the drainage systems at the ash dump need to be managed effectively to ensure the plant runs in an optimal way. All channels and drainage located outside the Ash Dump will form part of this Scope of Work such as Ash Dump CWD 3 and only the sections of the Ash Dump DWC and Ash Dump CWD 2 which are located outside the Ash Dump as shown in Figure 10.

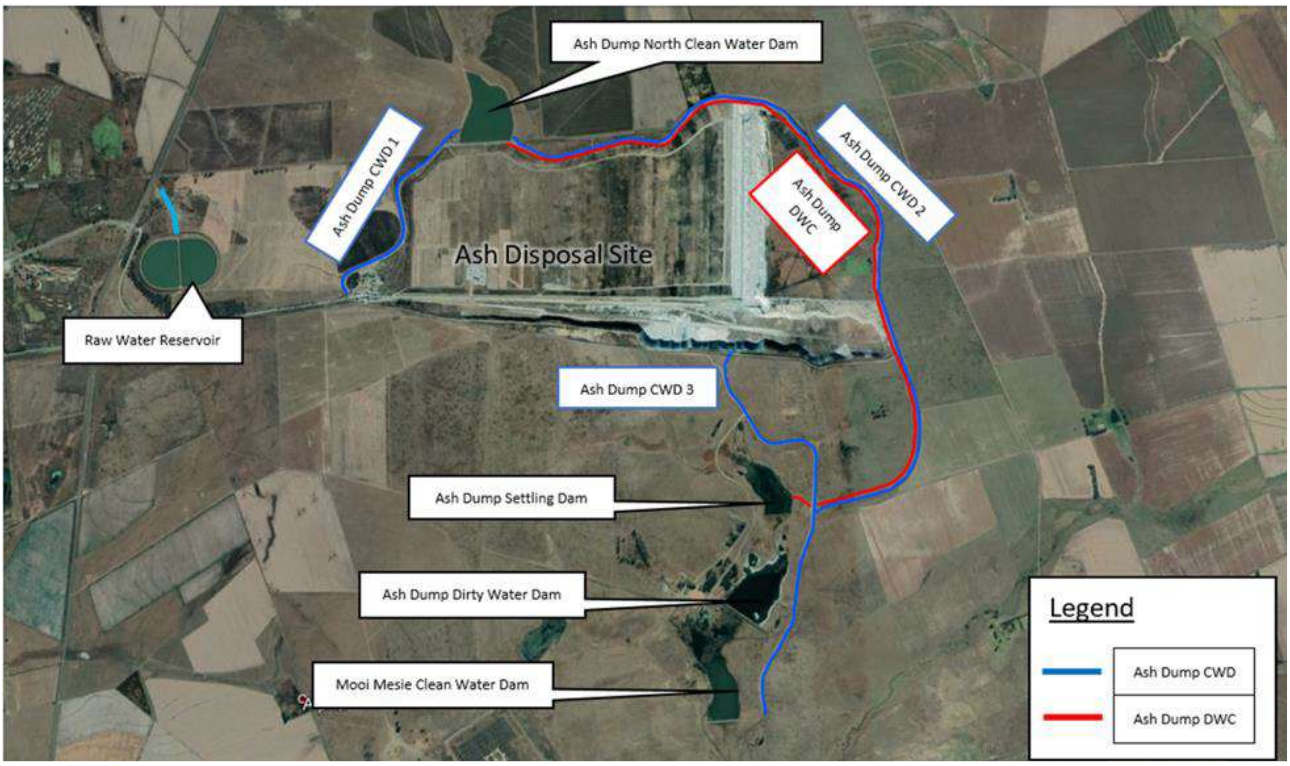

Figure 10: Ash Dump Open Drainage Channels Layout

1.1.8 Coal Plant Drainage

The Coal Plant is located to the northwest of the power station. The Coal Plant at Tutuka Power Station plays a pivotal role to the production of power, which further emphasizes the importance of efficient and effective operations at the Coal Plant. Furthermore, the drainage systems at the coal plant needs to be managed effectively to ensure the plant runs in an optimal way. The function of the coal stockyard is to store coal and later transport it to the station via a network of conveyor belts. The perimeter of the coal stockyard contains concrete and earth channels, which collect and divert water from the coal stockyard to the coal stockyard dam. The red lines in Figure 11 illustrates the location of these channels. It is fundamental there are no blockages along these channels and that water flows smoothly to the coal stockyard dam at all times.

Figure 11: Channels at the Coal Stockyard

Furthermore, there are also drains located along the access road at conveyors 12, 13, 14 and 15. This entire drainage network falls within this scope of work and will be required to be unblocked. Figure 12 displays the location of a portion of this drainage network. Stormwater and water from cleaning operations at conveyors 12,13,14 & 15 flow into these drains and then later flows via an underground pipe into a dam at the New Denmark Mine which is located towards the northeast of the coal stockyard. The water from the dam is then pumped back into the station. It is crucial that these drains and the underground pipe are unblocked and CCTV inspections are executed.

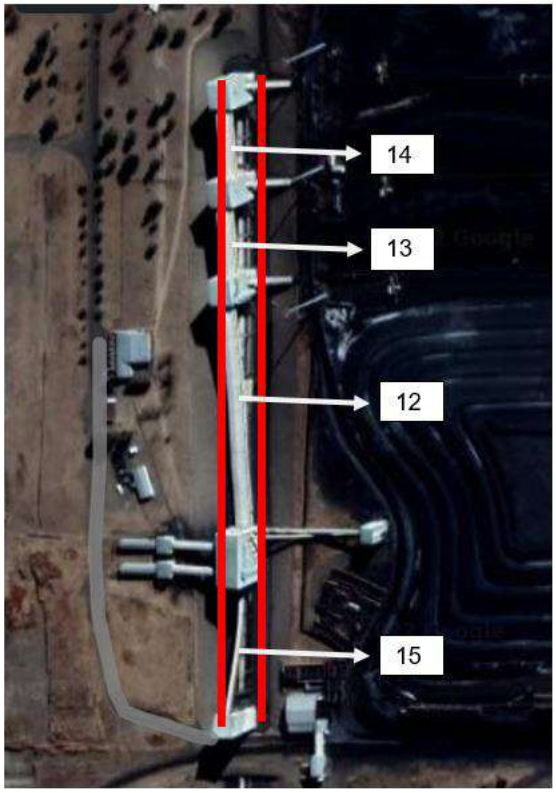

Figure 12: Coal Stockyard Drainage at Conveyors 12, 13, 14 and 15

1.1.9 Outside Station Drainage leading to Terrace Dams

The terrace dams at Tutuka PS are composed of the North Clean Dam, DB Thermal Dam, Steinmuller Dam and the Dirty Water Dam. These dams form part of the dirty water drainage system and water recovery system at Tutuka Power Station. The drainage leading to the Terrace Dams are comprised of concrete channels, earth channels and concrete pipes. All drainage structures leading to the terrace dams will form part of this scope. Further details on the drainage leading to the respective terrace dams are seen below.

1.1.9.1 North Clean Dam

The North Clean Dam is located to the north side of the station. The dam is also a catchment of any overflowing water from cooling tower 3 & 6 and rainwater, which enters the dam via concrete and earth, channels which are trapezoidal in shape. The blue lines in Figure 13 illustrates the location of these channels.

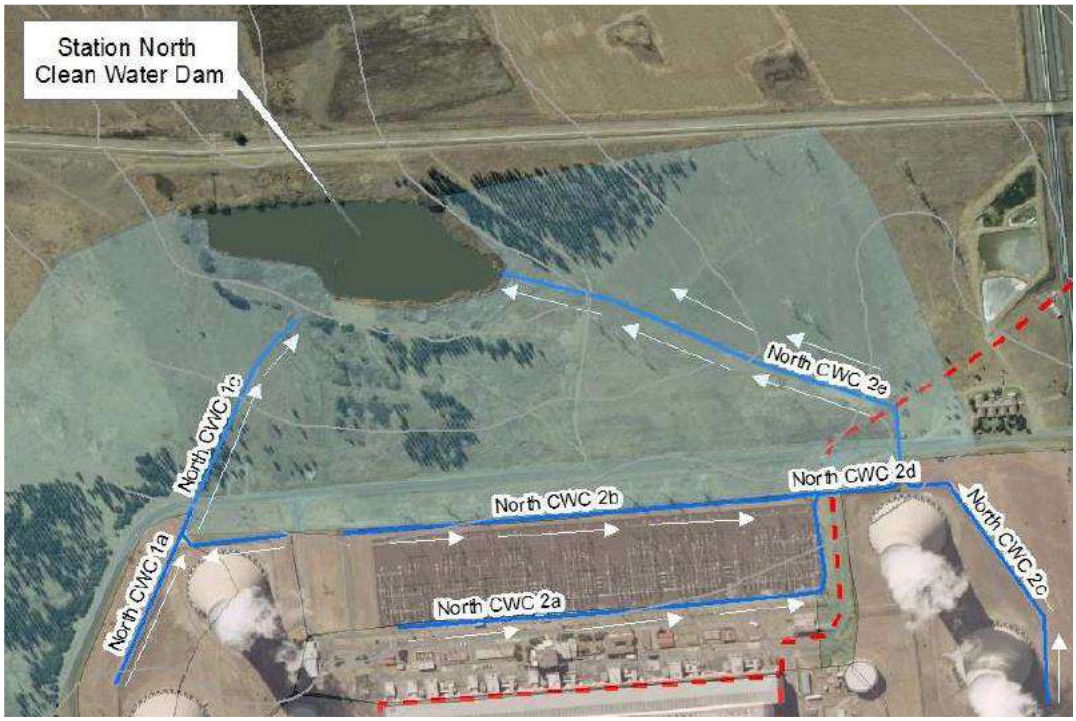

Figure 13: Channels Leading to North Clean Dam

1.1.9.2 DB Thermal Dam

The DB Thermal Dam is located within the perimeter of the power station at the southwest of the station. The dam is a catchment of any overflowing water from cooling tower 1 & 2, rainwater, ash & coal settling ponds overflow and air heater washing tanks overflow, which enters the dam via concrete and earth channels, which are trapezoidal in shape and concrete pipes when crossing access roads. The red lines labelled DBT1a, DBT1b and DBT2 in Figure 14 illustrates the location of these channels.

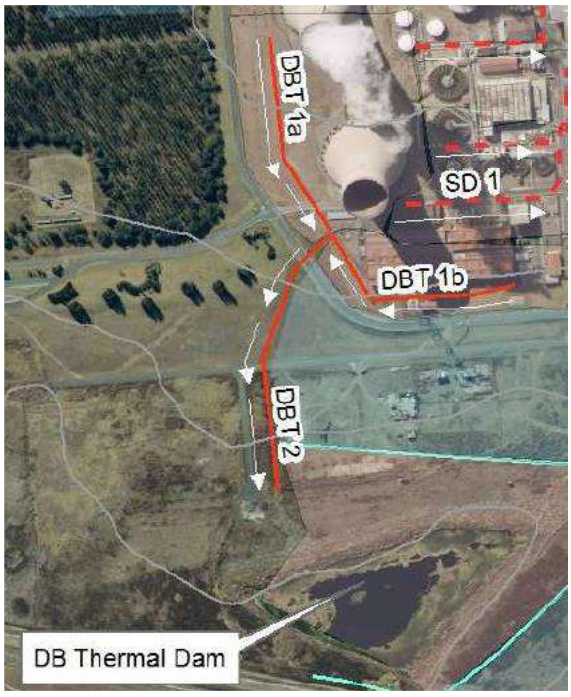

Figure 14: Channels Leading to DB Thermal Dam

1.1.9.3 Steinmuller Dam

The Steinmuller Water dam is located within the perimeter of the power station at the southeast of the station. The dam is a catchment of any overflowing water from cooling tower 4 & 5, rainwater, mine transfer house (wet coal and washing effluent), coal settling ponds overflow and water leaks from the dust suppression pipe to ash disposal, which enters the dam via concrete and earth channels, which are trapezoidal in shape and concrete pipes when crossing access roads. The red lines labelled SM1a, SM1b, SM1c and SM1d in Figure 15 illustrates the location of these channels.

Figure 15: Channels Leading to Steinmuller Dam

1.1.9.4 Dirty Water Dam (DWD)

The Dirty Water Dam (DWD) is located towards the west of the station not far from the East Gate at Tutuka Power Station and forms part of the dirty water drainage system. The main source of water inflow into the DWD is from the station drains, which lead to the dam via network of concrete channels and pipes. Figure 16 displays the dirty water dam and water recovery system. The dotted lines labelled SD1, SD2, SD3, SD4 and SD5 in Figure 17 illustrates assumed underground pipelines, which lead to the screw pump house. The water thereafter flows via underground pipelines and concrete channels to the sedimentation ponds after which it flows to the oil skimming plant via concrete channels and eventually to the Dirty Water Dam. Furthermore, the detailed drawings and layouts for the dirty water drainage leading to the DWD are listed in section 6 of this document.

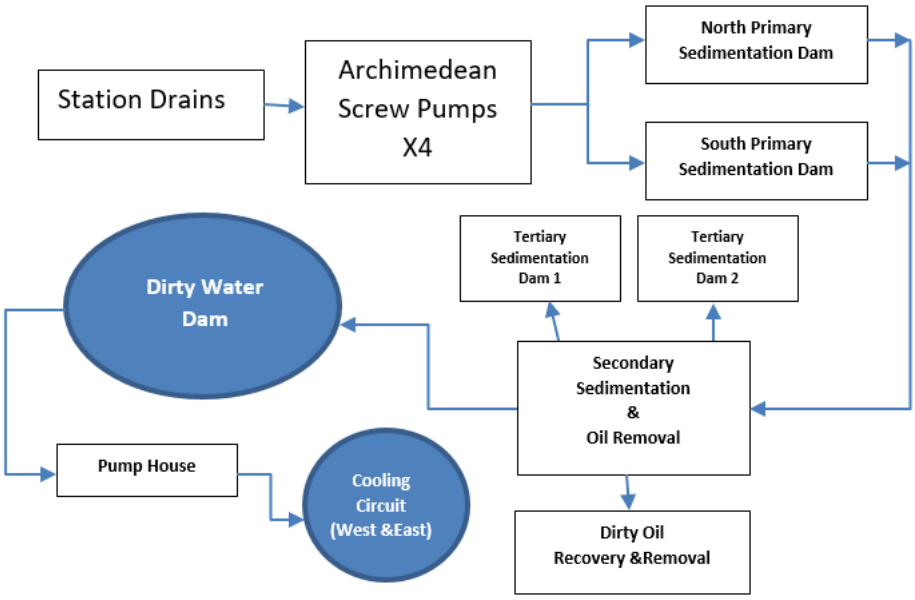

Figure 16: Dirty Water Dam and Recovery Systems

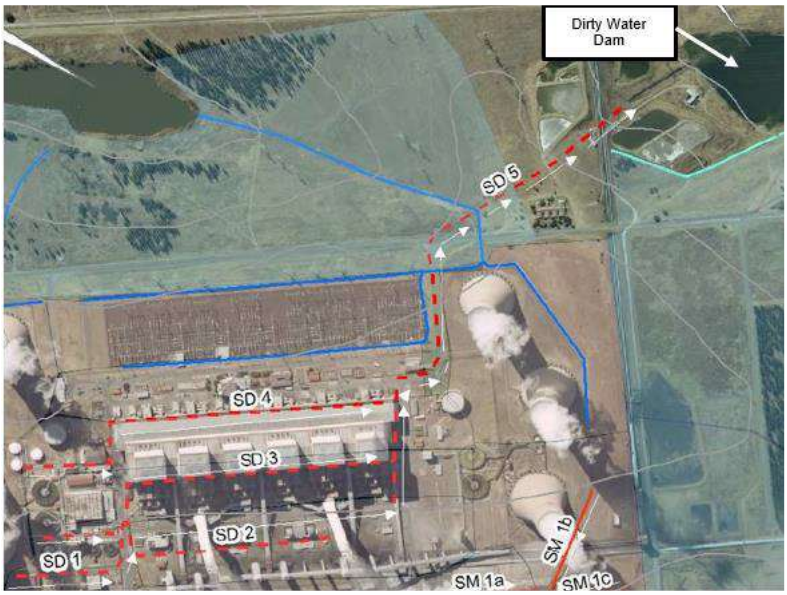

Figure 17: Station Drain Pipelines leading to DWD

1.1.10 Tutuka Sewage System

Tutuka sewage treatment plant supports the station. The sewage treatment plant is owned by Eskom and located within Eskom's properties. The Tutuka Power Station sewage treatment plant is an activated sludge wastewater treatment works (WWTW) using a simple extended aeration process.
The WWTW has the following process modules: -

- Small inlet work with manual raked screen and degritters
- A single aeration reactor
- One secondary clarifier
- 8 drying beds
- Maturation pond

- Granular chlorinator

Figure 18: Tutuka Sewage Treatment Plant

The hydraulic capacity of the plant is estimated at 1Ml/d based on the secondary clarifier diameter, which does not correlate with the reported design capacity of 2 Ml/d. Tutuka Sewage Treatment Plant is managed and operated by Tutuka Power Station Chemical Services Department. Currently the sewer discharge volumes reaching the Tutuka Sewage Treatment Plant are suspected to be lower than the sewage volume discharging from the power station due to possible blockages or collapsed hanged fixed 300mm diameter fixed. The sewer pipe diameters approximately range from a minimum 150 to a maximum 1000mm, with pipe material varying from PVC, concrete, clay and asbestos. Figure 19 below is an overview of the estimated 8km Tutuka sewage network, this figure must be read in conjunction with the Sewage treatment plant drawings listed under section 6.2. During Execution of the works, the *Contractor* is to determine the exact configuration and dimensions of the sewage network

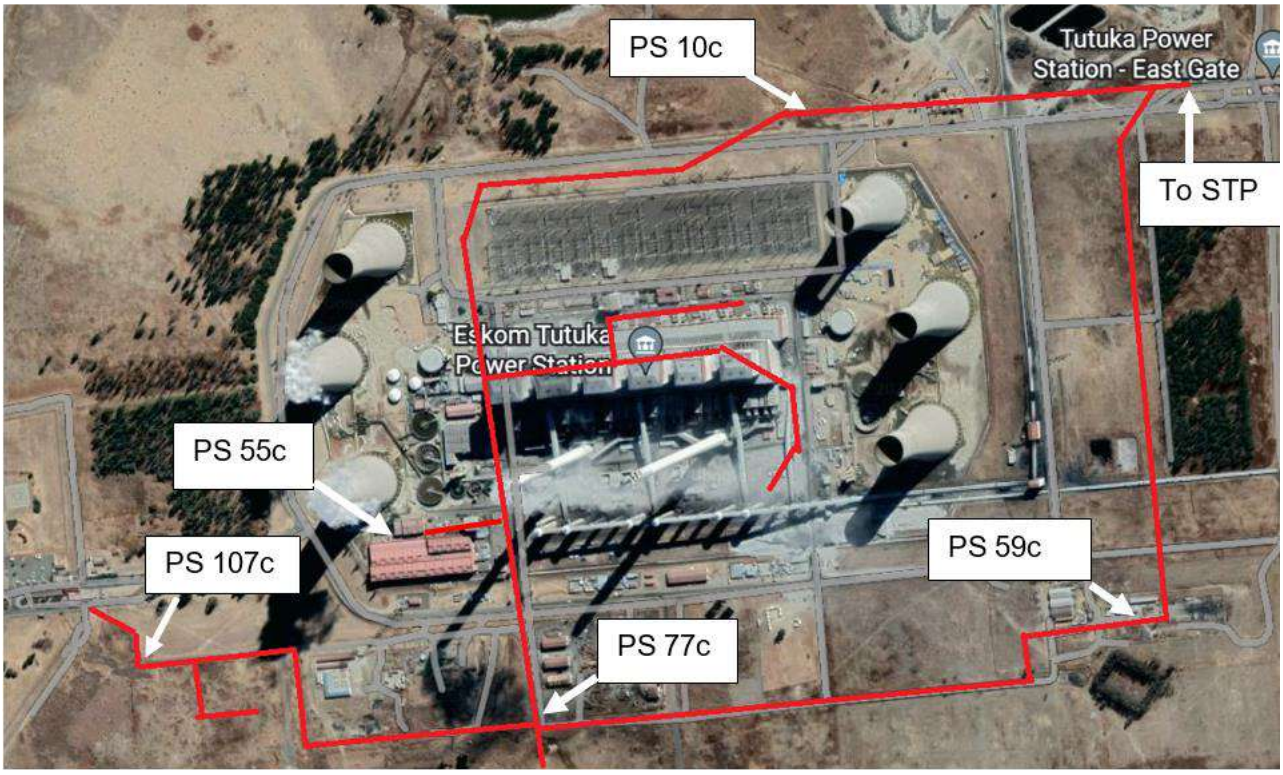

Figure 19: Tutuka Sewage Network Overview

1.1.11 TT01 & TT02 Emergency Ashing Areas

TT01 and TT02 are areas responsible for story ash under emergency circumstances when the conveyors transporting ash out of the station are off-line. They are located to the Southeast of the station. Figure 20 displays the location of TT01 and TT02.

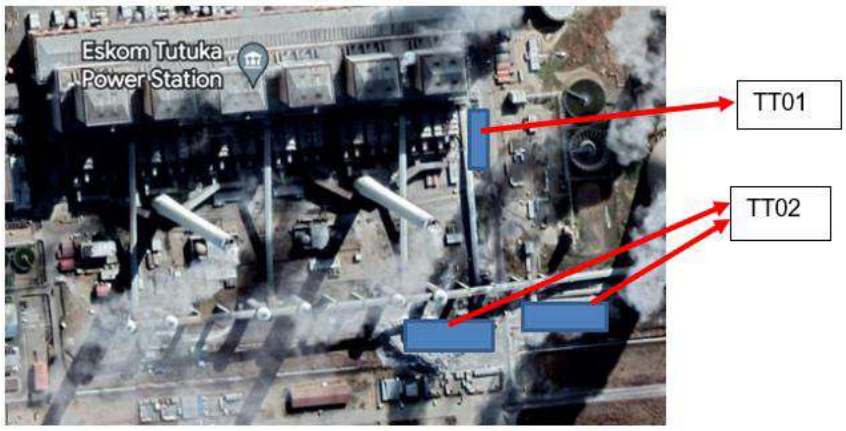

Figure 20: Location TT01 & TT02

a) The drainage of TT01 and TT02 are composed of concrete channels which lead to silt traps. The function of these silt traps are to collect and allow ash water to stagnate leading to sedimentation of the ash. The silt is then removed on an as and when needed basis. The water then overflows eventually leading to the Dirty Water Dam via the station drains. These respective silt traps are to be cleaned on an as and when required basis.

b) The water from the Silt Traps at TT02 are pumped to concrete channels which lead to the coal and ash settling ponds. The water from the coal and ash settling ponds are then pumped to the station drains where it finally ends up at the Dirty Water Dam. The water from the TT01 Silt Trap is channelled to the station drains where it finally ends up at the Dirty Water Dam.

1.1.12 Coal Silos Drains and Silt Traps

Tutuka Power Station consist of six coal silos which store coal for us in the station. The location of the six silos are at the south of the station as seen in Figure 20 which are labelled 1-6.The drainage at the silos are comprised of shallow concrete drains which lead to silt traps. Each silo is surrounded by shallow concrete drains which lead to a silt trap[Figure 21 & 22]. The water stored in the silt traps then overflows to concrete v-drains which lead to the coal and ash settling ponds[Figure 23 & 24]. The water from the coal and ash settling ponds are then pumped to the station drains where it finally ends up at the Dirty Water Dam.

Figure 21: Tutuka Power Station Coal Silos 1-6

Figure 22: Concrete Drains Surrounding Each Coal Silo

Figure 23: Silt Trap at Each Silo

Figure 24: Concrete V-Drains from Silt Traps to Coal & Ash Settling Ponds

1.1.13 Scope of Work

a) The scope of work is associated with a long-term contract (As and when required) for the Unblocking & CCTV Inspection of the Tutuka Drainage and Sewage Systems, Maintenance of Tutuka Stormwater Channels and Silt Traps

b) The boundary of the dirty water drains, trenches, channels and silt traps includes but not limited to:

- ➢ Unit 1-6 Boiler basement
- ➢ Water Treatment Plant Station Drains & Pipe Trenches
- ➢ Unit 1-6 Cable tunnels

- ➢ Ash Recovery Silt Traps
- ➢ Unit 1-6 Quenching and Recovery Sumps
- ➢ Ash Dump Drainage
- ➢ Coal Plant Drainage
- ➢ Outside Station Drainage leading to Terrace Dams
- ➢ Tutuka Sewage System
- ➢ TT01 & TT02 Emergency Ashing Areas
- ➢ Coal Silos Drains and Silt Traps

1.1.13.1 Activities Required for All Sub-Surface Drains and Silt Traps

a) The *Contractor* should perform the following activity for all the pipe work and trenches as per dirty water drainage drawings [2.2] and section 1.

i. *Contractor* to conduct all necessary assessments to establish structural condition, configuration, sub-surface drain dimensions, flow and direction of the dirty water drainage system.
ii. *Contractor* will be responsible for opening and closing of all the manholes.
iii. *Contractor* must acquire the correct permits and PPE to access manholes before the works commence
iv. *Contractor* must consult with the contract manager (Eskom Civil Maintenance) with regards to water tap off points
v. *Contractor* to note that unblocking works include the execution of unblocking works throughout the entire dirty water drainage system at Tutuka Power Station.
vi. Before commencing with unblocking works, *Contractor* to execute CCTV inspection and identification of blocked dirty water drains and trenches and provide results in the form of a report.
vii. *Contractor* to be equipped with cutting nozzles and any necessary specialized machinery, equipment, skills and resources to penetrate through the hard ash internal segments of the pipeline and unblock the drain as well as high pressured machinery to ensure that the ash is efficiently removed. *Contractor* to be equipped with the correct amount of machinery and equipment as well as labour to execute the works in the required time frame
viii. *Contractor* to unblock dirty water drains and trenches, as per identified blocked areas.
ix. *Contractor* to provide all Equipment, Machinery and labour (skilled and general) which must be effective to remove wet ash, cemented/hardened ash(clinkers) and slurry water or any other blockages inside the dirty water drains and trenches.
x. *Contractor* to execute CCTV inspections verifying blockages removed from the dirty water drains and trenches once unblocking is completed and provide results in the form of a report detailing the effectiveness of unblocking works. CCTV inspections to be done in conjunction with the unblocking works, CCTV should be on site at all times for the duration of the unblocking
xi. *Contractor* to conduct all necessary testing and commissioning verifying achievement of unblocking and CCTV inspecting at all the areas stated in this scope of work, which form part of the dirty water drainage system.
xii. *Contractor* to dispose of waste at Tutuka Ash Disposal Site. The quantity of waste (tonnage) to be recorded and waste to be logged at the Ash Disposal site. *Employer*'s Representative to arrange access to the Ash Disposal site.
xiii. *Contractor* to submit signed PDF reports detailing findings, recommendations, and repair method statement. *Employer*'s Civil Engineer to approve submission made by the *Contractor*. This should be a detailed report and video footage of the CCTV inspection
xiv. *Contractor* to submit all CCTV inspection findings to specify blockages, internal pipe condition, pipe material, diameter, flow direction, invert level, abnormalities/deviations, etc.
xv. *Contractor* to note that sub-surface drains including pipes that may be broken, cracked and/or badly damaged shall be replaced/refurbished. *Contractor* to submit a method statement detailing repair works. The method statement to be submitted to the *Employer*'s Civil Engineer for approval prior to the commencement of any work.
xvi. Silt Traps are to be cleaned on an as and when required basis.

1.1.13.2 Activities Required for Concrete and Earth Channels

a) *Contractor* to conduct all necessary assessments to establish structural condition, configuration, flow and direction of the channels.
b) *Contractor* to inspect and identify blockages and vegetation present at all channels and provide results in the form of a report.
c) *Contractor* to note that all inflow pipes leading to the channels form part of the unblocking works and the necessary inspections and works will apply as listed above.
d) *Contractor* to unblock channels as per identified blocked areas.
e) *Contractor* to provide all Equipment, Machinery and Labour (skilled and general) which must be effective to remove all blockages in the channels.
f) *Contractor* to execute inspections verifying blockages removed from the channels once unblocking is done and provide results in the form of a report detailing the effectiveness of unblocking works
g) *Contractor* to conduct all necessary commissioning verifying achievement of unblocking works.
h) *Contractor* to dispose of waste at Tutuka Ash Disposal Site. The quantity of waste (tonnage) be recorded and waste to be logged at the Ash Disposal site. *Employer*'s Representative to arrange access to the Ash Disposal site
i) *Contractor* to submit digital reports detailing findings, recommendations and repair method statement. *Employer*'s Civil Engineer to approve submission made by the *Contractor*.
j) *Contractor*'s inspection findings to specify blockages, concrete and earth channel condition, material, dimension, orientation, flow direction, invert level, abnormalities/deviations/defects, etc.
k) *Contractor* to note that concrete channel sections that may be broken, cracked and/or badly damaged shall be cut out and replaced/refurbished with suitable grout, fresh concrete etc. Concrete works shall be done in accordance with 240-144332407 Standard for Eskom Power Stations Concrete Remedial Work [2]. *Contractor* to submit a method statement detailing repair works detailing the supply and installation of the concrete repair works and associated testing requirements. The method statement to be submitted to the *Employer*'s Civil Engineer for approval prior to the commencement of any work.
l) *Contractor* to remove vegetation growing in concrete channel joints and cracks from the roots to prevent re-growth
m) *Contractor* to remove vegetation growing over concrete channels at the concrete edges and disposed of. All undesirable vegetation to be removed from the roots.
n) Dimensions of several channels can be seen in Annexure A. Where dimensions are unknown, the *Contractor* will be required to obtain these dimensions during the site assessment.

1.1.13.3 Activities Required for Tutuka's Sewage System

All necessary detailed site investigations, structural assessments, inspections, and analysis of the sewage system from Tutuka Power Station to Tutuka Sewage Treatment Plant. No excavation launch pits to be conducted. *Contractor* to execute site investigations, structural assessments, inspections, analysis of the sewage system, and unblocking of the sewage pipelines using trenchless technology methods. Existing manhole chambers to be utilised as accessing points. The site investigations, assessments, inspections and analysis includes but not limited to the following key focus points:

i Underground service detection and subsurface screening with ground penetrating radar to be executed.
ii Sewage pipes and dirty drainage, manhole structures, pit sumps, pumps, and valves
iii Determining flow direction of sewer network and flows at manholes and pit sumps
iv Identifying and determining blockages, failure mechanisms, operational deficiencies, and reduced flows in the pipeline, manholes, pit sumps, pumps, and sewage system in general

v Unblocking of sewer network with HP jet machine and/or vacuum truck to alleviate flow through the sewage system, cleaning of manhole infrastructure and pit sumps. This is inclusive of removing rubble and other foreign objects. In accordance with issued drawings, unblocking and CCTV inspection includes but not limited to: -
   a) Sewage pipes and manholes discharging into sewage pit 59C
   b) Sewage pipe and manholes between sewage pit 59C and the Tutuka Sewage Treatment Plant
   c) Sewage pipes and manholes discharging into sewage pit 107C
   d) Sewage pipes and manholes between sewage pit 107C and sewage pit 10C
   e) Sewage pipes and manholes between sewage pit 107C and sewage pit 77C
   f) Sewage pipes and manholes discharging into sewage pit 77C
   g) Sewage pipes and manholes between sewage spit 77C and sewage spit 10C
   h) Sewage pipes and manholes discharging into sewage pit 55C
   i) Sewage pipes and manholes between sewage pit 55C and sewage pit 10C
   j) Sewage pipes and manholes discharging into sewage pit 10C
   k) Sewage pipes and manholes between sewage pit 10C and Tutuka Sewage Treatment Plant.

v. Anchoring support for overhanging sewer drainage network
vi. Cracks in the connections of bracing components; and
vii. Safety of walkways, handrails, cat ladder,
viii. Determining flow analysis, capacity/volume and efficiency of the sewage network, pumps, and sewage system in general from Tutuka Power Station to the Tutuka Sewage Treatment Plant. This to determine the actual capacity/volume of sewage conveyed through the sewage network from Tutuka PS to Tutuka sewage treatment plant.
ix. Identify wet areas around the pit sumps and manholes. Where applicable, identify settlements of paving around structures
x. Identify "wet cracks" (visible outflow of water) on the external faces of the structures. "Dry cracks" with Calcite deposits are not critical but must be quantified for future reference.
xi. Identify the areas of structural distress > 0.5mm and large deflections/ settlements).
xii. Identify and quantify the areas of exposed aggregates, spalled concrete and corroded reinforcement.
xiii. Where applicable, identify abrasive areas on the scraper support surfaces.
xiv. Identify weathered and damaged joint sealants.
xv. Identify and quantify cracks in brickwork and plastered surfaces.

1.1.14 Site Rehabilitation

- *Contractor* is responsible to conduct any identified and/or relevant site rehabilitation that may be incurred during execution of every task order to unblock and CCTV inspect the Tutuka Drains and Sewage System, and Maintenance works executed on the trenches and channels.

1.1.15 Labour, Materials and Machine/Equipment

- The *Contractor* shall be responsible for the supply and delivery of all materials, tools, equipment, tools, machinery, labour, and specialist skills necessary to execute the required works. All equipment and machinery must be in working order.
- *Contractor* to conduct calibration tests on all tools machinery, and equipment. *Contractor* to submit valid calibration certificates submitted *Employer*'s approval before commencing with works.
- *Contractor* to submit method statement together with material/product data sheet for *Employer*'s Civil Engineer to approve before commencement of works.

- *Contractor* to provide their own resources to secure security of tools, materials, and machinery/equipment that will be stored on site. *Employer* will not be liable to account for any costs related to damages or thief of *Contractor*'s tools, materials, and machinery and equipment.

1.1.16 Quality Control and Assurance

i. The *Contractor* shall develop and implement a system for quality verification records, including site investigation Plans, Record Books (Data Books) as specified in the Tutuka Quality Specifications.

ii. Routine checks and inspections to be conducted as per *Contractor*'s Quality Control Plan (QCP), illustrating defined intervention assessment points. Before commencement of the works, the *Contractor*: -

a) Submits QCP for the *Employer* to review and approve before commencement of any works. The QCP include witness, hold, test, inspection points and signatories to be included are the *Contractor*s Supervisor, Eskom Civil Maintenance, Eskom Civil Engineer and Eskom Quality.

b) Compiles and present detailed proposal of executing the required works to the *Employer*, for *Employer* (i.e Civil Engineering, Civil Maintenance, Civil Quality, etc.) to approve. This to be inclusive of methodology, organogram, machinery and equipment to be used for every task order issued.

1.1.17 Configuration Management

a) All documents supplied by the *Contractor* shall be subject to Eskom's approval. The language of all documentation shall be in English.

b) All project documents must be submitted to the *Employer*'s Representative with transmittal note. In order to portray a consistent image, it is important that all documents used within the project follow the same standards of layout, style and formatting as described in the Work Instruction. The *Contractor* is required to submit documents as electronic and hard copies and both copies must be delivered to the *Eskom Representative* with a transmittal note.

1.1.18 DOCUMENT RETURNABLES

i. The *Contractor* shall produce and submit a project plan, project quality plan, organogram, detailed method statement, QCP, safety file for approval prior to the commencement of work. The *Contractor* to conduct induction and medicals prior to commencement of work.

ii. These documents should contain the following information, which is not limited to -

a) Project Programme: Indication of the different activities applicable for the execution of the required works from site establishment to handover as well as the time period allocated for each activity

b) Project Quality Plan: Highlight the activity or standard which shall be used to ensure quality materials and workmanship

c) Organogram: Indication of all the core staff (i.e. Site Manager, Safety Officer, etc.) who will be involved in the execution of the required works. Names and qualifications to be specified.

d) Method Statement: Detailed method statement specifying sequence of activities, skills, labour, materials, tools, equipment, machinery and testing procedures applicable for the execution of the required work.

e) QCP: Must indicate relevant hold, surveillance and witness points for the *Contractor* and *Employer*

f) Drawing format for all drawings to comply with Microstation. The creation, issuing and control of all Engineering Drawings will be in accordance to the latest engineering drawing requirements. Drawings issued to Eskom will be a minimum of one hardcopy and an electronic copy. All *Contractor* is required to submit are electronic drawings in Micro Station (DGN) format and scanned drawings in PDF format. No drawings in TIFF, AUTOCAD or any other electronic format will be accepted. Drawings issued to Eskom may not be "Right Protected" or encrypted.

1.1.19 Programme

a) The *Contractor* is to submit a detailed program of the works 1 week after being awarded the contract. The programme must clearly demonstrate to complete the works in the shortest possible, effective from the order/contract appointment. The program submission must be in soft copy pdf.
b) The project programme to specify the different activities applicable for the execution of the required works from site establishment to handover as well as the time period allocated for each activity.

1.2

1.2.1 Employer's requirements for the *service*

a) All services to be done according to the *Employer's* procedures and plant safety regulations.
b) All work undertaken must be done in accordance with workflow service and other things provided by the *Employer*.
c) The *Contractor* will familiarize himself with the plant and the dangers / hazards of obstacles in the vicinity, as the *Employer* will not be liable for any occurrence that can lead to a compensation event.
d) Equipment must be inspected before leaving the *Contractor*'s premises and copy kept in the `Working safety file`.
e) The `Working safety file` is a file with all the inspections that needs to be completed with every task order before and while on site.
f) For additional training required due to turn over, the cost will be for the *Contractors* account.
g) When entering the site after hours and if the person is without *Employer's* site identification card the entrance register must be filled in at the entrance security gates.
h) The *Contractor* shall inform the *Employer's* representative before the start of each repair regarding the repair details and technique which the *Contractor* wishes to use and the *Service Manager* and *Employer's* Supervisor must agree to it.
i) The *Contractor* must provide his own transport and accommodation for personnel, prices to be incorporated into the rates as per the price list.
j) The site working area must be kept clean at all times. This will also be the last point on the QCP.
k) All spares removed and returned to Tutuka premises must be declared at the main entrance where the removal permit for the spares must be shown to the protective services personnel.
l) Transportation of equipment will be arranged by the *Contractor* and rigging requirements will be arranged by the *Employer*.
m) All work to be done under a permit to work. Work Permit, Risk Assessment and QCP must be completed prior commencing each task.
n) All tools and electrical equipment must be inspected as required by the OHSACT85 of 1993 and filed as per the OHSACT 85 of 1993 requirements.
o) All Assessments must be signed off by both the *Contractor* and the *Service Manager* and accompanied with all support documentation 9time sheets. Cost breakdown, monthly report
p) Good housekeeping at all times. The *Contractor* must clean and remove all debris after completing a task.
q) The *Service Manager* will verify that the work performed as per Assessment is in fact a true reflection of work performed. Support documentation will be required from the *Contractor.*

r) Plant Safety Regulations have to be followed. Any contraventions will be strictly dealt with in line with *Employer's* Plant Safety Regulations and the Disciplinary Procedure.
s) The *Contractor* is to be at the specific working area location as define in the Task Order or by the *Service Manager*
t) If the needs arise to move away from the working area for any reason other than Safety, it must be under the supervision of the delegated Contract Supervisor.
u) Site access shall be granted by the *Employer's* site protective services as request by the *Service Manager*.
v) No employees will be transported on an open vehicle. The vehicles must comply with the *Employer's* minimum requirements for transportation of people.
w) The *Employer's* Life Saving Rules to be adhere to.
x) In case of rework caused due to the *Contractor's* negligence or poor workmanship all costs will be on the *Contractor's* account.
y) The *Contractor* is responsible for the transportation of own equipment and material.
z) The *Contractor* is not allowed to use any materials or spares for private usage while on sites.
aa) Work and QC to be done according to the *Employer's* requirements and procedures.
bb) The *Contractor* to provide its own fire extinguishers at own cost.

1.2.2 Site Constraints

a) Conduct all necessary site investigation and assessments to enable effective execution of the scope of work.
b) Execute scope of work of the Unblocking & CCTV inspection of the Tutuka Drainage and Sewage Systems, and Maintenance of Tutuka Stormwater Channels
c) Submit thorough report detailing investigation and assessment findings

1.2.3 *Constraints* on how the *Contractor* provides the *service*

a) The *Employer* reserves the right to have any of the *Contractor*'s personnel removed off site without cancelling the contract if, in the *Employer*'s opinion, it is warranted.
b) The *Employer* reserves the right to request disciplinary / corrective action if, and when, required.
c) The *Employer* reserves the right to have any of the *Contractor*'s personnel removed off site without any compensation in the event of *Contractor*'s personnel being in Contravention with the OHS Act or any other *Employer*'s Rules, Regulations and Procedures
d) The *Employer* reserves the right to terminate the contract, once 12 Non-Conformances Report / Performance Improvement Report (PIR / NCR) are raised against the *Contractor* for any SOW and Quality Non-Conformance, Re-work and Poor Workmanship or delays
e) The *Contractor* must submit Curriculum Vitae of its entire staff prior to work commencing on site.
f) The *Contractor* must submit valid, certified copies of qualifications and or certificates of its entire staff prior to work commencing on site.
g) The *Contractor* will be responsible for the full payment of the legislative training costs for every employee at the *Contractor*'s cost, in the event that the employee have to redo the training due to failing at the first attempt as well as the subsequent attempts that follows until the employee is authorised.
h) Early warning to be raised by *Contractor* for any deviations on timelines or schedule to be sent to *Service Manager* for approval
i) All known *services* will be brought to the attention of the *Contractor* by the *Service Manager*. Should the *Contractor* encounter any other *service*s in the work area, he will immediately bring it to the attention of the *Service Manager* who will issue instructions as to what actions are to be taken.
j) The contract will strictly be in accordance with the NEC TSC3. Early warnings, compensation events etc. are to be notified to the delegated personnel such as *Service Manager*.
k) The *Contractor* complies with all site regulations issued by the *Employer*.
l) Care must be taken to prevent damage to any surroundings such as plant, roads or equipment in and around existing buildings.

m) The *Contractor* and his employees will be required to conduct themselves at all times in proper and orderly manner while on the *Employer's* premises.
n) The *Contractor* and his employees may only smoke in the allowed / dedicated areas.
o) The *Employer* will take immediate steps to institute criminal investigations in the event of any suspected criminal acts e.g. theft etc.
p) Repeated serious criminal acts by *Contractor's* staff will be grounds for the cancellation of this contract.
q) The *Contractor* will be required to clean and remove any debris and rubble arising from any work done under any agreement originated from this contract to ensure that the *Employer's* premises are left in a clean condition.
r) All known *services* will be brought to the attention of the *Contractor* by the *Service Manager*. Should the *Contractor* encounter any other services in the work area, he will immediately bring it to the attention of the *Service Manager* who will issue instructions as to what actions are to be taken.
s) The *Employer's* carries no responsibility for unforeseen delays unless such a delay is reported immediately to the *Service Manager* of the occurrence and written agreement is submitted by the *Employer*.
t) The *Contractor* is not allowed to start any work on site before the *Employer*'s representative has issued the relevant working permits and safe to work on.
u) All material, equipment and tools necessary to carry out the specific scope shall be supplied by the *Contractor.*

1.3 Interpretation and terminology

The following abbreviations are used in this Service Information:

Abbreviation	**Meaning given to the abbreviation**
AP	Accounts Payable
BDV	Blow Down Vessel
CCTV	Closed Circuit Television
CPA	Cost Price Adjustment
DWD	Dirty Water Dam
ECSA	Engineering Council of South Africa
ISO	International Standard Organization
NCR	Non-Conformance Report
NWA	National Water Act
P&ID	Piping and Instrumentation Diagram
PPE	Personal Protective Equipment
QCP	Quality Control Plan
QIP	Quality Inspectiom Plan
QM	Quality Management
QMS	Quality Management System

SANS	South African National Standard

2 Management strategy and start up

2.1 The *Contractor*'s plan for the *service*

- To be discussed before each task order can be carried out between the *Contractor* and the *Employer.*
- Programme to be supplied on request on a signed hard copy as well as a soft copy, see Scope of Work.

2.2 Management meetings

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

Title and purpose	Approximate time & interval	Location	Attendance by:
Kick-off Meeting	Once off meeting Within 1 week of contract start date	Tutuka Power Station	*Employer* and *Contractor*
Risk Register and compensation events	As and when required	Tutuka Power Station	*Employer* and *Contractor*
Overall contract performance progress and feedback	Monthly Time to be confirmed by service manager	Tutuka Power Station	*Employer* and *Contractor*

The Contractor will comply with the requirements as set by the *Employer*. *The Contractor* will provide detailed feedback.

Meetings of a specialist nature may be convened as specified elsewhere in this Service Information or if not so specified by persons and at times and locations to suit the Parties, the nature and the progress of the *service*. Records of these meetings shall be submitted to the *Service Manager* by the person convening the meeting within five days of the meeting.

All meetings shall be recorded using minutes or a register prepared and circulated by the person who convened the meeting. Such minutes or register shall not be used for the purpose of confirming actions or instructions under the contract as these shall be done separately by the person identified in the *conditions of contract* to carry out such actions or instructions.

a) Attendance of meetings as required by *Service Manager* such as:

- The *Employer's Contractor*s Safety Meeting (monthly)
- Departmental Safety Meetings (monthly)
- Section daily meetings
- All outage meetings
- All Assessment meetings
- Any meeting requested by the *Employer* or *Contractor*

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

- Civil Engineers
- Supervisor
- Safety Officer
- Semiskilled
- General Workers.

The above manpower will be called on an as and when required basis depending on the scope of work.

2.4 Provision of bonds and guarantees

- N/A

2.5 Documentation control

a) Each instruction, certificates, submissions, proposal, records, acceptance, notification, reply and other communication which this contract requires is communicated in the form of which can be read, copied and recorded.
b) Writing is in the language of this contract.
c) All communication must be printed and filed in the *Service Managers* file
d) Monthly and weekly reports to be discussed, compiled and handed in to the Eskom Supervisor and *Service Manager* (to be announced by *Employer*)

2.6 Invoicing and payment

The *Contractor* shall include on each invoice the following information:

- Name and address of the *Contractor* and the *Service Manager*.
- The contract number and title.
- *Contractor*'s VAT registration number.
- The *Employer*'s VAT registration number 4740101508.
- Description of service provided for each item invoiced based on the Price List.
- Total amount invoiced excluding VAT, the VAT and the invoiced amount including VAT.
- Purchase Order number.
- Total amount invoiced excluding VAT, the VAT and the invoiced amount including VAT; CPA calculation sheet and the Invoice for CPA (with the GL Account Number and the CC on the Invoice) to be sent to the financial department as per Eskom Invoicing procedure / instruction.
- Eskom Invoicing and payment procedure to be followed.

2.7 Contract change management

a) Where *Contractor* does Name Changes, Mergers, Acquisitions and Cessions the *Employer*'s procedures must be followed. (Eskom Procurement and Supply Management)
b) In a case where one *Contractor* takes over from another *Contractor*, the Site *Service Manager* must be notified in writing immediately.
c) The *Contractor* does not cede, delegate or assign any of its rights or obligations to any person without the written consent of the *Employer.*

2.8 Records of Defined Cost to be kept by the *Contractor*

- All the original documentation must be kept by the *Contractor*.

2.9 Insurance provided by the *Employer*

- Refer to Contract Data section 8

2.10 Training workshops and technology transfer

a) The *Contractor* shall be obliged to carry out the *service* for which the training was provided.
b) *Contractor* staff to be found competent to work at Heights

2.11 Design and supply of Equipment

- *Contractor* provides all required equipment to perform the work.
- All test Equipment must be calibrated regularly, and certificates must be available during quality inspections.
- The Contractor submits particulars of the design of an item of Equipment to the Service Manager for acceptance if the Service Manager instructs him to do so

2.12 Things provided at the end of the *service period* for the *Employer*'s use

2.12.1 Equipment

At the end of the service period the Contractor
a) returns to the Employer, equipment and surplus Plant and Materials provided by the Employer,
b) provides items of Equipment for the Employer's use as stated in the Service Information and
c) provides information and other things as stated in the Service Information.

2.12.2 Information and other things

a) All reports / documents to be compiled, filed, discussed and handed over to the *Employer* on a weekly basis (the day in the week to be announced by *Employer*) and at the end of the *service.*
b) On Completion of contract the *Contractor's* safety file will be hand over to the *Service Manager* and will be saved for 40 Years after completion / termination of the contract
c) All PM's to be signed off and handed back to the *Service Manager* on a daily basis

2.13 Management of work done by Task Order

a) A Task Orders / Purchase Orders are the instruction to commence work.
b) No work shall commence until Task Order / Purchase Order is issued and has been finalised, accepted and signed by both the *Employer* and *Contractor.*
c) All work will be issued on a Task Order system.
d) The Work Order, Purchase Requisition, Task Order and Purchase Order will be created via the SAP PM system.
e) Completion certificate to be issued after tasks is completed on the Task Order. Completion certificate must be submitted together with the Assessment.

A Task Order includes
- a detailed description of the work in the Task,
- a priced list of items of work in the Task in which items taken from the Price List are identified,
- the starting and completion dates for the Task,
- the amount of delay damages for the late completion of the Task and
- the total of the Prices for the Task

3 Health and safety, the environment and quality assurance

3.1 Health and safety risk management

The *Contractor* shall comply with the health and safety requirements contained in Annexure SHEQ Specifications 14RISK SRM-084 to this service Information.

Eskom SHEQ Policy

Eskom has made a commitment to conduct business with respect and care for people, the environment and assets and that no operating condition or urgency of *service* justifies exposing anyone to negative risks arising from Eskom's business.

Compliance with the Eskom SHEQ Policy and applicable regulations is the responsibility of every employee and *Contractor*.

***Contractor* SHEQ Policy**

All *Contractors* shall have an OHS policy signed by the CEO of the *Contractor* and prominently displayed where employees normally report for duty.

Signed copy of the OHS policy shall form part of the SHE file.

SHE Plan Requirements

- Principal *Contractor*s shall develop a suitable and sufficiently documented site specific SHE plans, based on the scope of work and client SHEQ specification.
- The SHE plan must be pre-approved by the client for implementation. The principal *Contractor/Contractor* has a responsibility to send the SHE plan to the client for approval prior to commencement of work.
- The SHE plan must be applied from the commencement of and for the duration the construction work, which must be updated / reviewed as the work progresses/changes.

When a principal *Contractor* intends appointing *Contractor*, the principal *Contractor* shall ensure that the *Contractor* provides and demonstrate a suitable, sufficiently documented and coherent site specific health and safety plan, based on the client's SHEQ specifications and scope of work

- The *Contractor* must ensure that all personnel attend the *Employers* health and safety Induction Course prior to starting with the works.
- All Eskom health and safety requirements to be adhered to
- *Contractor's* Health and Safety file to be handed in for approval, and kept up to date by the *Contractor*

Health and Safety Arrangements

The *Contractor* ensures that all his personnel attend a Health and Safety Induction Course prior to contract starting date and annual re- induction. The Induction Course is presented by the *Employer's* Safety Risk Department at Tutuka Power Station. Arrangements are made with Safety Risk Management, by the *Contractor.*
The *Employer's* Safety Risk Manager visits and inspects the *Contractor's* workplace or site yard and the working areas to ensure that tools; machinery and Equipment comply with the minimum safety requirements.

The *Service Manager* may instruct the *Contractor* to stop work, where the *Contractor's* personnel fail to conform to safety standards or contravene health and safety regulations. Such stop-work order is not a compensation event. The *Service Manager* may instruct the *Contractor* to discipline his employees and to submit a disciplinary action report to the *Service Manager*. The *Contractor* implements additional health and safety precautions where necessary.

The *Contractor* complies with the Occupational Health and Safety Act 85 of 1993, as well as Eskom procedure as stipulated below:

d) SHEQ Policy 32-727
e) Eskom Procurement and Supply Chain Management Procedure 32-1034
f) SHE Requirements for the Eskom Commercial Process 32-726
g) *Contractor* Health and Safety Requirements 32-136
h) Integrated SHE Organization, Roles and Responsibilities and Statutory Appointments 32- 296
i) Live-saving Rules 240-62196227
j) Working at Heights 32-418
k) Eskom Vehicle Safety Specifications 32-345
l) Tutuka *Contractor* SHEQ Specifications 14RISK SRM - 084

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

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

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

Do safety audits at the *Contractor's* premises, its workplaces and on its employees.

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

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

The *Contractors* Health and safety file is to be submitted for approval to Tutuka's Safety Officer before contract commencement.

All work stoppages called by the *Employer* to be adhered to

First aid and fire fighting

Adequate first aid and firefighting equipment to be provided by the *Employer*
All *Contractor* personnel must have First aid and firefighting training

- ***Contractor* to provide own Fire Extinguishers**

Fire Precautions

Any tampering with the *Employer's* fire equipment is strictly forbidden.

All exit doors, fire escape routes, walkways, stairways, stair landings and access to electrical distribution boards is kept free of obstruction and are not used for work or storage at any time. Firefighting equipment must remain accessible at all times.

The *Contractor* takes the necessary action to safeguard the area to prevent injury and the spreading of the fire.

Security, fire protection and safety

The *Contractor* shall be responsible for ensuring the security of the works, and of his plant, equipment and materials. To that end he shall make adequate provision for access control, lighting and watchman to the works where required.

Fire protection

The provision of Eskom's standard NWS 1494 "Fire Prevention and Protection of *Contractor's* premises at New Works Sites" shall be applicable.

Safety and incident prevention

The *Contractor* shall implement and maintain an active Site Safety and Accident Prevention Programme in accordance with the Tutuka SHEQ Specifications. The overriding regulations will however be the Occupational Health and Safety Act.

Reporting of accidents

The *Employer* follows an accident prevention policy that includes the investigation of all accidents involving personnel and property. This is done with the intention of introducing control measures to prevent a recurrence of the same incidents. The *Contractor* is expected to fully co-operate to achieve this objective. The *Service Manager* must be informed immediately of any incidents. A written report to be submitted to the *Employer within 24 Hours* of incidents and any damage to property or equipment

NOTE! This report does not relieve the *Contractor* of his legal obligations to report certain incidents to the Department of Labour, or to keep records in terms of the Occupational Health and Safety Act, and Compensation for Occupational Injuries and Diseases Act.

Occupational Health and Safety Act 85 0f 1993 – SECTION 37

In accordance with Section 37 (2) of the Act, the *Contractor* is appointed by the *Employer* as mandatory to assume Health and Safety duties and responsibilities. The *Contractor* ensures compliance with all requirements of the Act and any instruction or notification that enhances those requirements.

The *Contractor* acknowledges that he is fully aware of all the requirements of the Occupational Health and Safety Act and undertakes to employ only staff who have been duly authorised in terms thereof and who receive sufficient safety training to ensure that they can comply therewith.

The *Contractor* undertakes not to do, and not to allow anything to be done which will contravene any of the provisions of the Act, Regulations or Safety and Operating Procedures.
The *Contractor* appoints a person who liaises with the *Employer's* Safety Officer, responsible for the premises relevant to the Contract. The person appointed shall on request:

- Supply the *Employer's* Safety Officer with copies of minutes of all Health and Safety Committee meetings, whenever required.
- Supply the *Employer's* Safety Officer with copies of all appointments in respect of employees employed on this contract, in terms of the Act and Regulations and shall notify The *Employer*'s Safety Officer of any changes thereto.

The *Employer* may, at any stage during the duration of this contract:

- perform safety audits at the *Contractor's* premises, its workplace and its employees.
- refuse any employee, *Sub-Contractor* or agent of the *Contractor* access to its premises if such person is found to commit any unsafe act or any unsafe working practice or is found not to be duly authorised nor qualified in terms of the Act;

- Issue the *Contractor* with an instruction to stop work should the *Employer* aware of any unsafe working procedure or condition or any non - compliance with The Act, Regulations and Procedures referred to in the Occupational Health and Safety Act - 85 of 1993 and all Regulations made hereunder as well as all the *Employer's* Safety and Operating Procedures. Any such instruction is not a compensation event. Furthermore, no Amendments to the act or the Regulations or reasonable amendment to the *Employer's* and Operating Procedures will entitle the *Contractor* to claim any additional costs or Time incurred in complying therewith, from the *Employer*

Safety Regulations of the *Employer*

The *Contractor* conforms to the Eskom Plant Safety Regulations
The *Employer* makes available to the *Contractor*, on request, a copy of the latest revision of the Plant Safety Regulations.

Safety requirements

- Annexure B
- Health and Safety plan/OHS manual.
- H&S costing
- Baseline OHS risk assessment.
- Valid letter of good standing or equivalent (LOGs)
- OHS policy (must be signed)
- Proof of OHS competency.

3.2 Environmental constraints and management

The *Contractor* shall comply with the environmental criteria and constraints stated in the following: -

All waste from the project must be disposed in a sound environmental manner in accordance with Tutuka Power Station Waste Management Procedure 14 Risk ENV-013. Oil spillages must be contained and cleaned as per Oil Spill Management procedure 15 ENPRENV-001. The project must conform to Eskom Environmental Legal and other Requirements procedure 14 Risk ENV-012 and the project must conform to Tutuka Power Station ISO14001 Standard with reference to Tutuka Power Station's Environmental Management System Manual 14 Risk ENV-010. All environmental incidents must be dealt with as per the Station's Incident Management, Corrective and Preventative Procedure 14 Risk PC-001 and all environmental incidents must be reported to the Environmental Department on site with Telephone Number 017-7495536/9200.

3.3 Quality assurance requirements

- No Site work is allowed unless the *Employer* accepts the Quality Management System requirements based on the scope of work.
- The *Contractor* must conform to Quality Management System-ISO 9001:2015 requirements.

- The *Contractor* will fully conform to the requirement of the Supplier Quality Requirement Specification (QM-58), standards, procedures and Eskom policies.
- All activities that need to have Quality control plans (QCP) must be in place which will be developed by the *Contractor*, also to be approved by Eskom Engineer prior execution of work.
- The *Contractor* might be subjected to audits. reviews and during the execution of work the client must perform inspections and spot- checks.
- All documents that will be arising from this project or contract must remain with the client.
- Where applicable the *Contractor* must conform/comply with all statutory requirements
- All documented information as per category 2, to be submitted prior work execution for purpose of evaluations.
- Where the principal *Contractor* will be sub-contracting, the principal *Contractor* must provide the documented information on how to control the sub-*Contractor*. The principal *Contractor* must take full responsibility of managing subcontracted supplier.

The Contractor, in conjunction with Tutuka relevant individuals must sign off all Quality Control documents after completing activity or activities.

4 Procurement

4.1 People

4.1.1 Minimum requirements of people employed

a) All relevant personnel names and titles must be specified to the *Service Manager*
b) Only Trained and Skilled people that are qualified to perform work are allowed
c) All new staff to be appointed in writing.
d) All new staff to do induction training
e) All replacements of staff will be in the same discipline (e.g. Artisan for an Artisan with proof of qualifications and CV)
f) Experience / knowledge must have qualification / certificate / reference of where and when this was gained.
g) In the case where one or more employees of the *Contractor* are requested to leave site for other reasons than 1-2 days sick leave or Annual leave. The personnel must be replaced immediately with the same skill.
h) All new staff to be approved by *the Service Manager* before entering the site or commencing work
i) When changing personnel a new access to work form to be completed by the *Contractor*
j) Only required specified approved amount of personnel to be allowed on site, pre-arrange with *Service Manager*

4.1.2 BBBEE and preferencing scheme

a) As per clause Z3 within Contract Data.

b) **Procurement requirements**

PPPFA STRATEGY

Indicate the percentage (%) that is allocated to:

Price	**80%**
BBBEE Status	**20%**
Designated commodity **(Yes/No)**	**Yes**

4.2 Subcontracting

4.2.1 Preferred *SubContractor*s

a) N/A

4.2.2 Subcontract documentation, and assessment of subcontract tenders

b) Subcontract documentation, and assessment of subcontract tenders to be administered and handled by the Principal *Contractor.*

4.2.3 Limitations on subcontracting

a) 30% subcontracting will be allowed and as per SDL&I requirement shall be subcontracted.

4.2.4 Attendance on *SubContractor*s

N/A

4.3 Plant and Materials

4.3.1 Specifications

a) Hold and witness points must be attended and witness all intervention points as per approved QCP as per activity.
b) The *Contractor* is responsible for the transportation of equipment and other material.
c) The *Contractor* is not allowed to use any equipment, materials or spares for private usage or on other Eskom sites.
d) Work and QC to be carried out according to all regulations and procedures of the *Employer*
e) Check sheets to be updated, signed and handed in to the *Employer's* Supervisor

4.3.2 Correction of defects

a) All work to be done must be done under a permit to work. Some plants are trip risks and can only be worked on during outages or unit shutdowns.
b) All defected spares to be replaced with the permission of the *Service Manager* / *Employer's* Supervisor.
c) All rework to be attended to within 24 hours and / or as soon as practical possible and will be against the *Contractor*s costs
d) As per inspection check list provided by the *Employer* (GGP 1045 page 33-35; GGP 1046 page 33-35)

4.3.3 *Contractor*'s procurement of Plant and Materials

a) Purchasing of spares, equipment or materials will go through the *Employer's* procurement process.
b) The *Contractor* will supply his own consumables.

4.3.4 Tests and inspections before delivery

a) The *works* are to be completed in accordance with the specifications in all respects and ready for take-over by the *Employer's* Representative except for the following work which may be done after the Completion Date, but before the dates stated below which are to be shown on the *Contractor's* program.

b) All spares removed and returned to the *Employer's* premises must be declared at the main entrance where the removal permit for the spares must be shown to the Protective Services personnel.

5 Working on the Affected Property

5.1 *Employer's* site entry and security control, permits, and site regulations

a) Lifesaving rules must be adhered at all times.
b) Access is limited and controlled by Plant Safety Regulations requirements.
c) No employee will be allowed to access the plant or to work without access permit issued.
d) All personnel to work on the plant must be registered on the Worker's Register by the Responsible Person.
e) All personnel must attend induction before working on site and they must obtain gate permits via the *Service Manager*.
f) Unauthorised access to site is prohibited. The personnel are expected to be at their working site area at all times.
g) No recruitment on site or at the main access gates.
h) All activities to comply with the OHSACT regulations.

5.2 People restrictions, hours of work, conduct and records

a) Normal working hours are Eskom working hours
   Monday to Thursday 07:00 - 16:15
   Fridays 07:00 - 12:00
   Outages 07:00 – 19H00
b) Standby / Call-out might be required or on an as and when required basis depending on the plant status (Outages / Breakdowns)
c) The *Contractor* must be available for any plant break downs during or after hours, weekends and Public holidays. The *Contractor* must be on site 2 hours after a call out is made.
d) All work to be performed will be on an 'as and when required' basis as per *Service Manager* request and as per plant performance

5.3 Health and safety facilities on the Affected Property

a) Proto team on each shift
b) Medical Station and relevant staff on Site.
c) Each workshop has a first aid box available.
d) Yearly induction for all personnel.
e) In an emergency the contract supervisor and *Service Manager* must be notified immediately

First aid centre

The *Contractor* provides a first aid service to his employees and *Sub-Contractors*. In the case where these prove to be inadequate, like in the event of a serious injury, the *Employer's* medical centre and facilities are 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* is entitled, however, to recover the costs from the *Contractor* for the use of the above *Employer's* facilities

5.4 Environmental controls, fauna & flora

Environmental management

a) Proper care of the natural environment is important to prevent nuisance and environmental degradation.
b) All *Contractors* shall comply with Eskom environmental management procedures and Environmental legislation
c) Environmental incidents shall be reported to the Eskom Environmental Department as per incident management requirements.

Waste Management

a) Waste segregation is important to facilitate recycling of waste. Ensure that waste material is disposed in the correct bin.
a) Eskom periodically collects waste from the bins for disposal in the correct manner.
b) No waste should be burned or buried on site.
c) Where Eskom and the *Contractor* have agreed that the *Contractor* is responsible for the Disposal of its waste, the *Contractor* shall safely dispose of such waste and keep disposal certificates filed.

Types and colours of bins used on site:

- Yellow bin for domestic waste
- Orange bin for hazardous waste
- Maroon bin for scrap
- Green box for cartridges
- Blue box for recyclable paper

Radiation protection

The *Contractor* conforms to the *Employer's* procedure OMOP 2049 and OMOP 2051 when performing any industrial radiography.

Hazardous Substances

It is required in terms of the General Administrative Regulation (Regulation 7) of the Act that any manufacturer, importer, seller or supplier of hazardous chemical substances shall supply the receiver, free of charge with sufficient information for the user, to enable the user to introduce the necessary measures as regards the protection of the health and safety of persons. It is therefore the responsibility of the supplier (dealing directly with the *Employer)* to supply the information. If information is not available for whatever reason, the supplier must indicate and give reasons to the *Employer.*

Handling of waste produced by the *Contractor*

All waste introduced to and/or produced on the *Employer's* premises, by the *Contractor*, for this contract, must be 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.: BN0621-16296-5.

The *Contractor* is responsible to appoint a waste coordinator to ensure that all waste produced is handled according to the applicable legislation.

The *Contractor* is required to ensure that all goods, services or work supplied in terms of the contract conform to all applicable environmental legislation. Where work is done on the *Employer's* site, the goods, services or work supplied also conforms to the *Employer's* environmental specifications.

Waste from the cleaning and maintenance of equipment

The *Contractor* is responsible to contain all waste due to cleaning and maintenance of equipment and disposes of as described below.

Stockpiling of waste

Waste is removed promptly to the designated deposit areas. No stockpiling is permitted.

Hazardous waste

Waste declared as hazardous substances in terms of the Hazardous Substances Act no 15 of 1973 is the responsibility of the *Contractor* to ensure safe removal from the property to a registered Class 1 site

Pest Control

Only approved herbicides with a low environmental risk shall be used for pest control.
Only registered pest controllers may apply herbicides on a commercial basis.
Application of herbicides shall be in accordance with the Fertilisers, Farm Feeds, Agricultural Remedies and Stock Remedies Act 36 of 194.

Water Conservation

Incidents related to water pollution must be reported to the Eskom environmental department within 24 hours.
Report / fix leaking taps and pipes to save water.
Use water sparingly.
Chemical substances shall not be disposed of in wastewater or storm water drains.

Air Pollution

Dust suppression measures must be in place to reduce airborne dust.
Noxious and offensive odours arising from work activities shall be adequately controlled.

Ground Pollution

Measures to prevent or control ground contamination shall be put in place e.g. drip trays, bund walls.
Spill containment, clean-up and ground rehabilitation shall be done as per Tutuka procedures

5.5 Cooperating with and obtaining acceptance of others

Interface with Others

It is likely that other *Contractors* will be working in the same area. Others might however from time to time require limited access to the same area in order to execute maintenance activities and the *Contractor* is to be accommodating in such instances.

Planning

Programmes are submitted in hard and electronic copy. The software package is MS Projects, Open Plan or equivalent, accepted by the *Service Manager*.

Progress report

A Report will be submitted to the *Service Manager* as and when requested.

Completion

Contractor to submit a completion certificate after each task is complete.
Final completion certificate of contract must be submitted at the end of Contract period.

Requirements for Completion.

Completion is when the *Contractor* has done all the work, which the Works Information states he is to do by the Completion Date and has corrected notified Defects, which would have prevented the *Employer* from using the works.
The Site is handed back to the *Employer* in a condition acceptable to the *Service Manager*.

5.6 Records of *Contractor*'s Equipment

a) All equipment and tools need to be marked and a list off all tools with the identification number to be provided to the *Service Manager* when entering site.
b) All lost equipment and tools to be declared to the *Service Manager* and full details of incident.
c) *Contractor's* equipment (Cellphones with Camera's, Computers, Camera's etc) to be declared and signed in at security.
d) All test equipment must be calibrated and tested regularly, and certificates must be handed in to the *Service Manager* for record keeping

All equipment and appliances

All equipment or appliances used by the *Contractor* conforms to the applicable South African Safety Standards and is maintained in safe and proper working condition. The *Service Manager* has the right to stop the *Contractor's* use of any equipment or appliance that in the *Service Manager's* opinion does not conform to the foregoing. The *Contractor* only employs skilled persons, certified in terms of the relevant acts.

5.7 Equipment provided by the *Employer*

a) Mobile, Overhead cranes, forklifts, air winches and other winches to be provided and operated by the *Employer*
b) All rigging equipment over five tons to be provided by the *Employer* and to be used under Eskom supervision.

5.8 Site services and facilities

5.8.1 Provided by the *Employer*

a) The *Employer* supplies 220 & 380 V AC power supply at existing points for the purpose of the works only
b) The *Employer* supplies portable water for the purpose of the works, at existing points and in reasonable quantities. Uninterrupted supply is not guaranteed and is not grounds for compensation events.
c) *Employer* will provide facilities (such as toilets).
a) Scaffolding where needed and must be planned 2 days upfront for non-emergent work
b) Working space / area
c) Gas test and environmental certificate
d) All *Employer*s required training will be provided by the *Employer*.

5.8.2 Provided by the *Contractor*

a) *Contractor* to provide and ensure safe transportation services for all *Contractor's* employees and it must comply with 32-93 and 33-345 procedures.
c) Access permits [Refer to procedure: Access Control at Eskom premises (32-1134)]
d) *Contractor* to provide own (coffee, sugar, milk, tea, etc.)
~~e)~~ All computers and printers accessories needed to be provided by the *Contractor.*
f) All PPE to be provided by *Contractor* at own costs for all weather types and must be SABS approved and meet Eskom standards.
g) Gloves and dusk masks will be supplied by the *Contractor* at own cost.
h) Provide SABS approved Safety harnesses as per Eskom Safety requirements and must be inspected daily and logged.
i) *Contractor* will provide a Method Statement to explain how the SOW will be executed, and this must form part of the Tender returnable.
j) The *Contractor* Submit detailed method statement and material data sheet for Employer's Civil Engineers to approve before commencement of the works.

   i. Submit detailed programme/plan including tasks to be executed, date of completion for each task and amount of time needed to complete task for Employer to approve before commencement of the works.

   ii. Submit detailed QCP, which ties in with the submitted method statement, signatories to be Contractor, Eskom civil maintenance, Eskom civil engineer, and Eskom quality. QCP must be submitted to Civil Maintenance, Civil Engineering and Civil Quality to approve before commencement of works.

k) The *Contractor* makes own arrangements for accommodation and meals at own costs.
l) The *Contractor* provides its own cell phone and the cost thereof.
m) The *Contractor* will be responsible for all non-Eskom telephone calls, faxes and internet usages.
n) *Contractor* to provide 2 x (380VAC 63 Amp) 50m extensions. Extensions must be COC certified.
o) *Contractor* to provide own barricading for no-entry in works areas.

5.9 Control of noise, dust, water and waste

a) All necessary and relevant PPE must be used at all times when entering or working on plant.
b) Work Permit Risk Assessment forms must be completed before commencing with any task.
c) All relevant procedures to be used at all times.

5.10 Hook ups to existing works

- all connections, fittings, or equipment installations must be made **without changing or modifying the existing elevation** of pipes, ducts, cables, or structural elements.

5.10.2 Qualifications (Note – the below mentioned will change from time to time based on the skills required per contract)

Minimum qualifications requirements and experience of people employed by the *Contractor* are as follows:

- The *service* provider shall provide demonstrable evidence of qualifications and experience of the operations personnel
    - Civil Engineer / Technologist to have at least minimum Professional Registration with ECSA in Civil Engineering with at least 5 years drainage and stormwater and sewage network design.
    - Supervisor to have at least minimum National Diploma in Civil Engineering with 4 years supervisory experience in maintenance, rehabilitation operation in stormwater drainage and sewage networks
    - Safety Officer to have at least a National Diploma in Safety Management with 3 years relevant experience
    - Semi-skilled must at least Grade 12 with at least 3 years' experience on the use of relevant tools and equipment for unblocking drains such as rods, high-pressure water jets and CCTV operation for drain inspection and surveys.
    - General Workers must be able to read and write and understanding of basic tools.

5.11 Tests and inspections

5.11.1 Description of tests and inspections

a) The *works* are to be completed in accordance with the specifications in all respects and ready for take-over by the *Employer's* Representative except for the following work which may be done after the Completion Date, but before the dates stated below which are to be shown on the *Contractor's* programme.
b) Completion of Documentation two weeks after completion date.
c) Quality Control check sheets to be done between *Contractor* and *Employer*
d) Do inspections as per Scheduled Work Order and report all defects to the *Employer*'s Supervisor
e) As per Clause 40. For test and Inspections

Quality Control

i. The *Contractor* shall develop and implement a system for quality verification records, including site investigation Plans, Record Books (Data Books) as specified in the Tutuka Quality Specifications.
ii. Routine checks and inspections to be conducted as per *Contractor*'s Quality Control Plan (QCP), illustrating defined intervention assessment points. Before commencement of the works, the *Contractor*: -
   a) Submits QCP for the *Employer* to review and approve before commencement of any works. The QCP include witness, hold, test, inspection points and signatories to be included for the *Contractor*'s Supervisor, Eskom Civil Maintenance, Eskom Civil Engineer and Eskom Quality.
   b) Compiles and present detailed proposal of executing the required works to the *Employer*, for *Employer* (i.e Civil Engineering, Civil Maintenance, Civil Quality, etc.) to approve. This to be inclusive of methodology, organogram, machinery and equipment to be used for every task order issued.

Tutuka Control Inspectors

a) Quality control inspections will be conducted on behalf of Eskom by a quality inspector from maintenance Section. The inspections will be carried out to provide an assessment of conformance to specification and quality requirements.
b) These inspections do not take any responsibility away from the supervisor or artisan performing the work.
c) The quality inspector's responsibilities include the following:
   - Reviewing maintenance procedures and work instructions and indicating witness and hold points.
   - Verifying that specified quality requirements have been achieved by inspecting work in progress and indicating acceptance on the quality control plan.
   - Ensuring that acceptable maintenance practice and all relevant codes, standards and statutory requirements are adhered to.
d) The quality inspector has the authority to stop work where an inadequacy threatens the safety of plant or personnel. It is the responsibility of the person performing the activity to inform the quality inspector prior to reaching a witness or hold point. In the case of a major outage the quality inspector must be informed at least 24hrs in advance.

5.11.2 Materials facilities and samples for tests and inspections

a) As per Clause 40.2. The *Contractor* and the *Employer* provide materials, facilities and samples for tests and inspections.
b) QC check sheets

5.11.3 Warranty on Load tests

a) None

6 List of drawings

6.1 Drawings issued by the *Employer*

a) All relevant drawings can be obtained from the *Service Manager* or Engineering department and will be available on request.

a) Tutuka Water Use Licence (Licence No: 08/C11K/ABCFGI/1016)

b) [2] 0.61/00077 Rev 8. Storm Water Drainage Layout

c) [3] 0.61/00076 Rev 31 Dirty Water Drainage

d) [4] 0.61/00133 Rev 3 Drainage GA. Road. Dirty. Storm Water. Sewer

e) [5] 0.61/00134 Rev 1 Dirty Water Drainage. North of Terrace.

f) [6] 0.61_13921_REV_2-Ash dump clean water dam south

g) [7] 0.61_55339 Common Plant CCW Drainage System P&ID

h) [8] 21.61_55329 Common Plant West Water Treatment Plant Dirty Drains System P&ID

i) [9] Eskom Tutuka - Power Station Drainage Drawings

j) [10] 0 61/55330 Common Plant Station Drain System PID

k) [11] Jeffers & Green Tutuka Rain Readiness Report September 2014

l) [12] 240-144332407 Standard for Eskom Power Stations Concrete Remedial Work [2]

m) [13] 0.61/02821/REV 16 WTP Drains and Manholes

n) [14] 0.61/02822/REV 7 WTP Drainage and Manhole Detail

o) [15] 0.61/04099/REV 1 West Pipe Trench Layout

p) [16] 0.61/55328 Demin Regen Effluent Drains P&ID

q) [17] 0 61/130 Rev 13 Tutuka Sewage General Layout

r) [18] 21.61/55323 Tutuka Sewage Drain System P&ID

s) [19] 0 61/135 Rev 3 North Terrace General Sewage Layout

t) [20] 0 61/1748 Rev 2 South and East Terrace General Sewage Layout

u) [21] 0.61/136 Rev 3 South Terrace Sewage Layout

v) [22] 21.61/55323 Tutuka Sewage Treatment and Water Recovery System P&ID

w) [23] 0.61/02821_Rev 16 WTP Drains and Manholes

x) [24] 0.61/2822_Rev 7 Drainage and Manhole Detail

y) [25] 0.61_04099_Rev 1 West Pipe trench Layout

z) [26] 0.61/02773-Rev7: Water treatment plant Building plan on Column Bases, Trenches, Tunnels and Sumps

aa) [27] 0.61/02762-Rev2: WTP building Demin Plant pipe trench layout

bb) [28] 0.61/02857-Rev2: Cable tunnel East Concrete Details

cc) [29] Tutuka Power Station Sewer Network Conditional Assessment & Remedial Work, Rev 2, Intah Solutions, November 2020

7 Appendix A

7.1 Low Service Damages Table

X17 Low Service Table			
ITEM	**DESRICPTION OF TASK**	**REASON FOR DAMAGES**	**DAMAGES TO BE IMPLEMENTED**
Schedule compliance	Not completing work as per the accepted program	**delays in work completion**	1% of total order value per day of delay to the maximum of 10% task order value
Recording /report blocked drains	Failure to record/report blocked drain location or resolution details	Blocked drains not unblocked in time	R20 000 per incident /missing report
Housekeeping	Incomplete clean-up after task	Debris left on site	Clean area within 24 hours, failure to due so will result in a penalty fee of 2% from the task order
Manhole covers	Manhole covers not re-fitted correctly or left loose	Poor workmanship	Immediate re-fit within one (1) working day and penalty of 0.5% of the total task order value
SHEQ compliance	Unsafe work, not wearing correct PPE and/or any safety incident	Non - Compliance	Early Warning, NCR will be issued And 1% of task order value per incident
Incomplete Tasks	Delayed completion of task/activity according to plan/programme	Production risk	1% for every Hour delayed of the affected work on the Task Order Value.
Rework	Poor workmanship	Delaying Production	A penalty of 2% of Line Item if resolved within 3 days A penalty of 3% of line Item if resolved within 5 days A penalty 5% of line item resolved between 5 -7 days NCR will be issued for rework after 7 days

7.2 Annexure B – Risks Register

Risk Register

Description of the risk		**Action to avoid or reduce the risk**
Risk event	**Cause & possible outcome**	**Action to be taken and who in terms of the contract is responsible for taking it**
Adverse weather conditions	causing delays to work completion	monitor weather forecasts; reschedule work if necessary

Equipment failure	Delays to work execution	Regular equipment maintenance; have backup equipment
Inadequate access to drain locations	Delays in work commencement	Perform site assessment; coordinate with service manager for access
Exposure to hazardous materials in drains	Safety hazard	Provide PPE; train staff on hazard identification and response
Environmental contamination	Environmental contraventions	Follow environmental guidelines; proper waste disposal
Schedule programme not followed	Delays on repairs	*Contractor* to submit a programme for repairs/ refurbishment /recondition activities and ensure that it is approved by the *Employer or Service Manager*
Injury to personnel during manual clearing	Standing time and delays to work completion	Safety training; enforce PPE use; follow safe working procedures
Re-work	Poor quality of workmanship	*Employer* to hold and witness points and *Contractor* to provide Data book

8 Annexure C: Key Performance Indicators:

item	KPA	Objective	Weight	Poor	Good	Excellent
				2	3	5
1	**Programme submission after contract award**	To ensure plans are submitted as per agreed programme	15%	**Submiited after a week**	**Submitted within 1 week**	**Early submission**
2	**PM and Schedule compliance**	To ensure schedules are followed as per programme submitted	30%	**Behind schedule**	**On time**	**Compliance met as per Maintenance Index**
3	**QCP's submission**	Hold and witness Intervention points	10	**No QCP**	**QCP signed and submitted**	**QCP approved**
4	**SHEQ compliance**	To ensure *Contractor* complies to all SHEQ related matters	5%	**Non-Compliance**	**Compliant**	**Exceeding Expectations**
5	**Housekeeping**	To ensure *Contractor* area is clean and housekeeping is always maintained	5%	**Non-Compliance**	**Compliant**	**Exceeding Expectations**

6	**Call - out Response**	*Contractor* to respond to call outs within 1 hour	10 %	**>than1 hour response**	**1 hour repsonse**	**Less than an hour response**
7	**Technical and SOW Compliance**	To ensure that unblocking, CCTV inspections and maintainance are executed as per SOW	25%	**4 NCR issued per year**	**2 NCR issued per year**	**0 NCR per year**