NEC3 Term Service Contract (TSC3)

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

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

for **SERE WIND FARM FIRE PROTECTION SYSTEM**

Contents:		**No of pages**
Part C1	**Agreements & Contract Data**	**[●]**
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CONTRACT No. **[Insert at award stage]**

PART C1: AGREEMENTS & CONTRACT DATA

Contents:

		No of pages
C1.1	Form of Offer and Acceptance	[●]
C1.2a	Contract Data provided by the *Employer*	[●]
C1.2b	Contract Data provided by the *Contractor*	[●]

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:

SERE WIND FARM FIRE PROTECTION SYSTEM

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 .....

Tenderer's CIDB registration number: .....

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

Acceptance

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

The terms of the contract, are contained in:

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

C1.2 TSC3 Contract Data

Part one - Data provided by the *Employer*

Clause	Statement	Data
1	**General**	
	The *conditions of contract* are the core clauses and the clauses for main Option:	
		A: Priced contract with 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
		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**
10.1	The *Service Manager* is (name):	**Thobeka Cungcu**
	Address	**15 Pasita Street, Rosenpark, Durbanville, 7550**
	Email	**Cungcut@eskom.co.za**
	Tel	**021 941 5720**
11.2(2)	The Affected Property is	**Sere Wind Farm**
11.2(13)	The *service* is	**The inspection, servicing, testing and supply of spares of the Sere Fire Protection System**

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

11.2(14) The following matters will be included in the Risk Register

No	Sere Wind Farm
1	Matters notified as Early Warnings
2	Community unrests
3	Environmental risks relating to waste disposal
4	unavailability of budget of forthcoming financial year/s
5	Delay in the supply of services
6	Legal compliance
7	Unavailability of required resources
8	Adverse weather conditions
9	Unforeseen interfacing issues
10	Road conditions
11	Labour unrests
12	Spares no longer available
13	Spares no longer required due to upgrades
14	Spares contain substances that are banned for production, distribution, import, export, sale and use.

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	• **1 week** • **3 days for urgent matters** • **Periods as stated in the works information** • **Immediately within the shift for health and safety matters**
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	**2 weeks of the Contract Date**
3	**Time**	
30.1	The *starting date* is.	**TBC**
30.1	The *service period* is	**5 years**
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**
42.1	The *defects date* is	**Patent Defects- 12 months from the in-service (commissioning) date** **Latent Defects- 2 years after the in-service (commissioning) date**

42.2	The *defect* correction period is	**To be agreed between *Contractor* and *Service Manager* once both parties have established the most appropriate period for correction of the defect which must be to the benefit of the plant.**
42.3	The *defects* access period is	**To be communicated by the *Service Manager***
44	Warranties	**The *Contractor* shall provide the Employer the with a 3-year warranty after installation of the component**
5	**Payment**	
50.1	The *assessment interval* is	**between the 24th and 25th day of each successive month or after completion of Task Order.**
51.1	The *currency of this contract* is the	**South African Rand**
51.2	The period within which payments are made is	**4 weeks from when the *Contractor* provides the *Employer* with an invoice in accordance with the *law of the contract* and the *Employer*'s requirements stated in the Z Clauses and/or services Information, reflecting the amount due for payment equal to that certified, accepted, or corrected by the *Service Manager,* or decided by the *Adjudicator* or awarded by the *tribunal*, as applicable.**
51.4	The *interest rate* is	**dependant on the required currency of the payment.** **(i) For South African Rand (ZAR), it is the publicly quoted South African Rand Overnight Index Average (ZARONIA) rate published by the South African Reserve Bank.**
6	**Compensation events**	**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**
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	**1. None**
9	**Termination**	**There is no reference to Contract Data in this section of the core clauses and terms in italics used in this section are identified elsewhere in this Contract Data.**
10	**Data for main Option clause**	
A	**Priced contract with 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	**1 week.**

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 *Adjudicator nominating body*.**
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	**Cape Town, 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: **One month before tender closure. Price adjustment will be fixed and firm for the first 12 months.**

The proportions used to calculate the Price Adjustment Factor are:

proportion	linked to index for	Index prepared by
0.	[•]	[•]
0.	[•]	[•]
0.	[•]	[•]
0.	[•]	[•]
0.	[•]	[•]
0.15	non-adjustable	
1.00		

X2 Changes in the law — **There is no reference to Contract Data in this**

		Option and terms in italics are identified elsewhere in this Contract Data.
X17	**Low service damages**	
X17.1	The *service level table* is in	

Low service damages description	Damages
Safety file not approved (approval 2 (two) weeks prior to execution. Safety plan must contain all current and relevant information and needs to be re-approved when documents change	10% per day until corrected capped 20% of Task order value
Rework due to poor workmanship	10% per day until corrected capped 20% of Task Order value
Incomplete documentation provided	10% per day until corrected capped 25% of Task Order value
Delayed submission of maintenance/progress report	10% per day until corrected capped 25% of Task Order value
Delayed mobilisation of personnel and equipment	10% per day until corrected capped 25% of Task Order value

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	**36 months after the end of the *service period*.**
X19	**Task Order**	
X19.3	Delay Damages	**10% applicable to each Task Order value at Task Order completion**
X19.5	The *Contractor* submits a Task Order programme to the *Service Manager* within	**5 days of receiving the Task Order**
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 subcontractors abide by the undertakings in this clause.

Z5 Waiver and estoppel: Add to core clause 12.3:

Z5.1 Any extension, concession, waiver or relaxation of any action stated in this contract by the Parties, the *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 “Main Contractor” for the Affected Property;
- warrants that the total of the Prices as at the Contract Date includes a sufficient amount for proper compliance with 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 all applicablehealth & safety laws and regulations and rules, guidelines and procedures otherwise provided for under this contract and ensures that his Subcontractors, employees and others under the Contractor’s direction and control, likewise observe and comply with the foregoing.
- The *Contractor*, in and about the execution of the *service*, complies with all applicable environmental laws and regulations and rules, guidelines and procedures otherwise provided for under this contract and ensures that his Subcontractors, employees and others under the *Contractor’s* direction and control, likewise observe and comply with the foregoing

Z6.2 Personal Protective Equipment (PPE) Compliance:

- Compliance with PPE requirements is compulsory and non-negotiable across all

operational areas. Non-compliance will result in immediate and strict consequence management as stipulated in the memorandum referenced in Annexure B of the OHS Requirements.

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.

Z8.2 Add to clause 62.3, The *Service Manager's* reply which is an acceptance of a qouatation for a compensation event may require the due authority of the *Employer*

Z8.3 Add to clause 62.5 The *Service Manager* notifies the *Contactor* if the *Employer's* aurthority is required and includes in his notification any extension to period within which he is required to reply to the *Contractor's* quotation.

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 Subcontractors or Subcontractor's employees, or any one or more of all of these parties' relatives or friends,

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

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

Committing Party means, as the context requires, the *Contractor*, or any member thereof in the case of a joint venture, or its employees, agents, or Subcontractors 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 Intellectual Property – Eskom owning Intellectual Property

"Intellectual Property" means (a) patents, trade marks, service marks, rights in designs, trade names, trade secrets, know how, copyrights and topography rights, in each case whether registered or not; (b) applications for registration of any of them; (c) rights under licences and consents in relation to any of them; (d) all forms of protection of a similar nature or having equivalent or similar effect to any of them which may subsist anywhere in the world.

"Background Intellectual Property" means any and all Intellectual Property rights that are not Foreground Intellectual Property, and are owned or controlled by the relevant party or licensed to the relevant party prior to or outside of the *services* but required for the purposes of the *services*.

"Foreground Intellectual Property" means all Intellectual Property rights and other matter capable of being the subject of intellectual property rights that is conceived, first reduced to practice or writing or developed in whole or in substantial part in the course of the execution of the *services* and rights which are developed substantially as a result of the *services*. Any *services* that will be developed, changed, modified and/or improved specifically for the Purposes will be Foreground Intellectual Property. Any data or any other information relating to *Employer's* proprietary information generated from the use of the *Contractor 's* Background Intellectual Property.

Z13.1 The *Contractor* retains ownership of all Background Intellectual Property rights made by or on behalf of the *Contractor* as part of the *works* in information or material it uses in carrying out the *works*

Z13.2 All Foreground Intellectual Property rights, contained in any developed materials which are created by the *Contractor* or on behalf of the *Contractor*, for the purposes of and in support of the execution of the *works* (*Employer*'s IP) vest with the *Employer*

Z13.3 Any data or any other information relating to *Employer's* proprietary information generated from the use of the *Contractor's* Background Intellectual Property, the copyright therein shall be owned by the *Employer*

Z13.4 The *Contractor* acknowledges that all rights, title, and interest in and to the Foreground Intellectual Property that may result or originate from or be developed in execution of the *services* vests in the *Employer* and that the *Contractor* has no claim of any nature in and to the Foreground Intellectual Property.

Z13.5 The *Contractor* ensures that a copyright notice is incorporated or embossed or labelled on the Foreground Intellectual Property, where the *Employer* is reflected as the owner of the Foreground Intellectual Property.

Z13.6 The *Contractor* is obliged to provide Foreground Intellectual Property manufacturing documents, designs, processes and/or specifications to the *Employer/* before/on the *completion date*

Z13.7 The *Contractor* procures that each Sub-*Contractor* executes all and any *services/* and

takes all and any other actions as may be required, in order to give effect to this Agreement.

Z13.8 The *Employer* retains all Background Intellectual Property rights in all documents made by or on behalf of the *Employer* including all documents and requirements provided prior to or during the execution of the *services*.The *Contractor* does not, without the written consent, of the *Employer* copy, use or issue to a third party any of the *Employer's* Background Intellectual Property documents and requirements except for the purposes of executing the *services* .

Z13.9 Either party procures that any third party executes confidentiality undertakings not to disclose to any other third parties, any of the *Employer*'s Background Intellectual Property and IP documents and requirements at all, in respect of the *Employer*, or the Background Intellectual Property, in respect of the *Contractor.*

Z13.10 **Third Party Claims:**

Z13.10.1 In the event of any claims being made or actions brought against the *Employer*, on the ground that the *Contractor* infringed any patent, trade mark or copyright, the *Contractor* is notified thereof and at its own expense, conducts all negotiations in consultation with the *Employer* for the settlement of the claim and litigation that may arise from such alleged infringement, provided that the *Employer* will not bear any financial burden or losses.

Z13.10.2 Save where the *Contractor* fails to take over the conduct of the negotiation or litigation within a reasonable time of the notification of the alleged infringement, the *Employer* does not make any admission which might be prejudicial to the *Contractor*'s position. The *Employer*, at the request and the cost of the *Contractor* affords it all reasonable technical assistance that the *Employer* is able to provide for the purpose of contesting any such claim or action.

Z13.10.3 Should it be held in any such action that any such protected rights have been infringed, as definitely stated by a judgment of the court before which the action is brought, the *Contractor*, at its own expense and in consultation with the *Employer*, either:

a. procures for *Employer* the right to continue to use the affected item or design, or
b. replaces the said affected item or design with a non-infringing item, or
c. provides a design of equivalent quality or modify such affected item or design so as to make it non-infringing without affecting the quality.

Z13.10.4 Notwithstanding anything contained in this contract, the foregoing sets forth the entire responsibility of *Contractor* with respect to claims relating to infringement.

Z13.10.5 Where it is alleged that the *Employer* has committed an infringement as intended vis-à-vis the *Contractor* as set out in the third party intellectual property infringement clause, the *Employer* has the same rights and obligations as the *Contractor* mutatis mutandis, as regards such alleged infringement.

Z13.10.6 The *Contractor* herewith indemnifies the *Employer* and undertakes to keep the *Employer* indemnified against all claims of whatsoever nature, real or imagined, which may be made against the *Employer* arising from the infringement of any third party intellectual property rights.

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, normalised 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.

C1.2 Contract Data

Part two - Data provided by the *Contractor*

Notes to a tendering contractor:

1. Please read both the both the NEC3 Term Service Contract April 2013 and the relevant parts of its Guidance Notes (TSC3-GN)[3] in order to understand the implications of this Data which the tenderer is required to complete.
2. The number of the clause which requires the data is shown in the left hand column for each statement however other clauses may also use the same data.
3. Where a form field like this [ ] appears, data is required to be inserted relevant to the option selected. Click on the form field ***once*** and type in the data. Otherwise complete by hand and in ink.

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

Clause	Statement	Data
10.1	The *Contractor* is (Name): Address Tel No. Fax No.	
11.2(8)	The *direct fee percentage* is The *subcontracted fee percentage* is	**%** **%**
11.2(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:	

[3] Available from Engineering Contract Strategies Tel 011 803 3008 Fax 086 5391902 or www.ecs.co.za

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	2
C2.2	The *price list*	**[●]**

C2.1 Pricing assumptions: Option A

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.

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.

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).

Preparing the *price list*

Before preparing the *price list*, both the *Employer* and tendering contractors 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.

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.

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.

APPENDIX A: PRICING DATA

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C2 Price List

Item nr	Description	Unit	Expected Quantity	Rate	Total Price
1	Bill no 1 – General Preliminary ALL work to be done by the Appointed Contractor including Safety Compliance Services and emergency response Eskom is an ISO 9001, 45001 registered company and requires from the contractor to adhere to these				
1.1	To provide Eskom with a Safety File as required and to maintain the fire protection systems throughout the contract period as contemplated.	Sum	1		
1.2	Provide contract employees with appropriate Personal Protective Equipment:	Sum	1		
1.3	The Contractor shall compile a file, in duplicate and in electronic format (as described) which shall be kept up to-date throughout the contract period and one physical and one electronic copy returned when the contract period has expired.	Sum	1		
Total Bill 1					

Bill 2: <u>6-Monthly</u> Inspection of fire doors:							
Item nr	**Description**	**Unit**	**Expected Quantity**	**Days**	**Rate**	**Price for Year 1**	**Total for 60 months**
2	6-Monthly Inspection & Repair/Replacement of Fire Door intervals For the inspection & repair/replacement of fire doors inclusive of all supervision, labour, accommodation, living out allowance and traveling costs of:						
2.1	Technician	Ea	2	1			
2.2	Accomodation	Ea	2	1			
2.3	Living Out	Ea	2	1			
2.4	Transport	km					
Total Bill 2							

Bill 3: 6-Monthly Inspection of fire reticulation mains:							
Item nr	**Description**	**Unit**	**Expected Quantity**	**Days**	**Rate**	**Price for Year 1**	**Total for 60 months**
3	6-Monthly Inspection of Fire Reticulation Mains intervals For the inspection of fire reticulation mains inclusive of all supervision, labour, accommodation, living out allowance and traveling costs of:						
3.1	Technician	Ea	2	1			
3.2	Accomodation	Ea	2	1			
3.3	Living Out	Ea	2	1			
3.4	Transport	km					
Total Bill 3							

Bill 4: Yearly Maintenance of fire protection systems:						
Item nr	**Description**	**Unit**	**Expected Quantity**	**Rate**	**Price for Year 1**	**Total for 60 months**
4	Yearly Maintenance intervals For the maintenance of fire protection systems inclusive of all supervision, labour, materials, accommodation, living out allowance and traveling costs of:					
4.1	Fire Extinguishers	Ea	200			
4.2	Hydrants	Ea	4			
4.3	Hose Reels	Ea	2			
4.4	Hydrant Hoses	Ea	4			
Total Bill 4						

Bill 5: Yearly water supply proving test on hydrants:						
Item nr	**Description**	**Unit**	**Expected Quantity**	**Rate**	**Price for Year 1**	**Total for 60 months**
5	Yearly Water Supply Proving Test intervals For the water supply proving testing of hydrants inclusive of all supervision, labour, accommodation, living out allowance and traveling costs of:					
5.1	Hydrants (Most Remote Hydrant)	Ea	1			
Total Bill 5						

Bill 6: <u>Yearly</u> servicing of pumps & drivers and field performance test of fire pumps:						
Item nr	**Description**	**Unit**	**Expected Quantity**	**Rate**	**Price for Year 1**	**Total for 60 months**
6	Yearly Service & Performance Test intervals For the service & performance testing of fire pumps inclusive of all supervision, labour, accommodation, living out allowance and traveling costs of:					
6.1	Electric Fire Pump	Ea	1			
6.2	Electric Fire Pump Motor	Ea	1			
6.3	Diesel Fire Pump	Ea	1			
6.4	Diesel Engine	Ea	1			
Total Bill 6						

Bill 7: <u>5-Yearly</u> Extended Maintenance, Overhaul and hydrostatic pressure testing of fire extinguishers, hydrant hoses and hose reels:						
Item nr	**Description**	**Unit**	**Expected Quantity**	**Rate**	**Price for Year 1**	**Total for 60 months**
7	5-Yearly Extended Maintenance, Overhaul and Hydrostatic Pressure Test intervals For the Extended Maintenance, Overhaul and hydrostatic pressure testing of fire extinguishers, hose reels and hydrant hoses inclusive of all supervision, labour, accommodation, living out allowance and traveling costs of:					
7.1	Fire Extinguishers	Ea	200			
7.2	Hydrant Hoses	Ea	4			
7.3	Hose Reels	Ea	2			
Total Bill 7						

Bill 8: <u>5-Yearly</u> Deluge Flow Control Valve Overhaul:						
Item nr	**Description**	**Unit**	**Expected Quantity**	**Rate**	**Price for Year 1**	**Total for 60 months**
8	5-Yearly Deluge Flow Control Valve Overhaul intervals For the overhaul of deluge flow control valves inclusive of all supervision, labour, accommodation, living out allowance and traveling costs of:					
8.1	Deluge Valves	Ea	3			
Total Bill 8						

Bill 9: 5-Yearly overhaul of pumps & drivers and shop & field performance test of fire pumps:						
Item nr	**Description**	**Unit**	**Expected Quantity**	**Rate**	**Price for Year 1**	**Total for 60 months**
9	5-Yearly Overhaul & Performance Test intervals For the overhaul & performance testing of fire pumps inclusive of all supervision, labour, and traveling costs of:					
9.1	Electric Fire Pump	Ea	1			
9.2	Electric Fire Pump Motor	Ea	1			
9.3	Diesel Fire Pump	Ea	1			
9.4	Diesel Engine	Ea	1			
Total Bill 9						

Bill 10: Reactive Maintenance							
Bill 10.1: Weld Repair and Fabrication:							
Item nr	**Description**	**Unit**	**Expected Quantity**	**Days**	**Rate**	**Price for Year 1**	**Total for 60 months**
10.1	Weld Repair and Fabrication intervals For the Weld Repair and Fabrication Intervals inclusive of all supervision, labour, accommodation, living out allowance and traveling costs:						
10.1.1	Materials, consumables, tools and equipment	Ea	1				
10.1.2	Supervisor	Ea	1	20			
10.1.3	Safety Officer	Ea	1	20			
10.1.4	Coded Welder	Ea	1	20			
10.1.5	Pipe Fabricator	Ea	2	20			
10.1.6	Maintenance Assistant	Ea	1	20			
10.1.7	Travelling Cost x 3	km					
10.1.8	Accommodation	Ea		20			
10.1.9	Living Out	Ea		20			
Total Bill 10.1							

Bill 10.2: Corrosion Protection:							
Item nr	**Description**	**Unit**	**Expected Quantity**	**Days**	**Rate**	**Price for Year 1**	**Total for 60 months**
10.2	Corrosion Protection intervals For the sandblasting and hot-dip galvanising intervals inclusive of transport and corrosion protection:						
10.2.1	Transport of components	Ea	10				
10.2.2	Sandblasting	kg	500				
10.2.3	Hot-dip galvanising	kg	500				
Total Bill 10.2							

Bill 10.3: Non-destructive Testing of Welds:							
Item nr	**Description**	**Unit**	**Expected Quantity**	**Days**	**Rate**	**Price for Year 1**	**Total for 60 months**
10.3	Non-destructive Testing (Dye Pen) intervals For the Dye Penetrant Examination intervals inclusive of labour, accommodation, living out allowance and transport:						
10.3.1	Materials, consumables, tools and equipment	Ea	1				
10.3.2	Technician	Ea	1	10			
10.3.3	Maintenance Assistant	Ea	1	10			
10.3.4	Travelling Cost x 4	km					
10.3.5	Accommodation	Ea	2	10			
10.3.6	Living Out	Ea	2	10			
Total Bill 10.3							

Bill 10.4: Repair of Fire Doors:							
Item nr	**Description**	**Unit**	**Expected Quantity**	**Days**	**Rate**	**Price for Year 1**	**Total for 60 months**
10.4	Repair of Fire Doors intervals For the Repair of Fire Door Intervals Intervals inclusive of all supervision, labour, accommodation, living out allowance and traveling costs:						
10.4.1	Materials, consumables, tools and equipment	Ea	1				
10.4.2	Supervisor	Ea	1	5			
10.4.3	Safety Officer	Ea	1	5			
10.4.4	Technician	Ea	1	5			
10.4.5	Maintenance Assistant	Ea	1	5			
10.4.6	Travelling Cost	km					
10.4.7	Accommodation	Ea		5			
10.4.8	Living Out	Ea		5			
Total Bill 10.4							

Bill 10.5: Replacement of Fire Doors:							
Item nr	**Description**	**Unit**	**Expected Quantity**	**Days**	**Rate**	**Price for Year 1**	**Total for 60 months**
10.5	Replacement of Fire Doors intervals For the Replacement of Fire Door Intervals inclusive of all supervision, labour, materials, accommodation, living out allowance and traveling costs:						
10.5.1	Single Leaf Class D Fire Door Assembly	Ea	5				
10.5.2	Double Leaf Class D Fire Door Assembly	Ea	5				
10.5.3	Supervisor	Ea	1	5			
10.5.4	Safety Officer	Ea	1	5			
10.5.5	Semi-skilled Worker	Ea	1	5			
10.5.6	Travelling Cost	km					

10.5.7	Accommodation	Ea		5			
10.5.8	Living Out	Ea		5			
10.5.9	Delivery of Materials	Ea	1				
Total Bill 10.5							

Bill 10.6: Repair of Fire Stops and Intumescent Coatings:							
Item nr	**Description**	**Unit**	**Expected Quantity**	**Days**	**Rate**	**Price for Year 1**	**Total for 60 months**
10.6	Repair of Fire Stops and Intumescent Coating intervals For the Repair of Fire Stops and Intumescent Coating Intervals inclusive of all supervision, labour, accommodation, living out allowance and traveling costs:						
10.6.1	Technician	Ea	1	3			
10.6.2	Semi-Skilled	Ea	1	3			
10.6.3	Accomodation	Ea	2	3			
10.6.4	Living Out	Ea	2	3			
10.6.5	Transport	km					
10.6.6	**Materials:**						
10.6.6.1	Mineral Wool Panel – Mandoval Vermiculate	5 pack	5				
10.6.6.2	Pyrosafe WB – Mandoval Vermiculate	L	50L				
10.6.6.3	TEKROK “S” Plaster Mandoval	15kg	2				
10.6.7	Delivery of Materials	Ea	1				
Total Bill 10.6							

Bill 10.7: Disposal of Fire Equipment:							
Item nr	**Description**	**Unit**	**Expected Quantity**	**Days**	**Rate**	**Price for Year 1**	**Total for 60 months**
10.7	Disposal of Fire Equipment intervals For the Disposal of Fire Equipment Intervals inclusive of all supervision, labour, accommodation, living out allowance and traveling costs:						
10.7.1	Technician	Ea	1	2			
10.7.2	Semi-Skilled	Ea	1	2			
10.7.3	Travelling Cost	km					
10.7.4	Accommodation	Ea	2	2			
10.7.5	Living Out	Ea	2	2			
Total Bill 10.7							

Bill 10.8: Undefined Spares:							
Item nr	**Description**	**Unit**	**Expected Quantity**	**Days**	**Rate**	**Price for Year 1**	**Total for 60 months**
10.8	Undefined Spares intervals For the Supply of Undefined Spares Intervals inclusive of all materials and delivery costs:						
10.8.1	Transport of Materials	Ea	5				
10.8.2	Spares	Ea	1				
Total Bill 10.8							

Bill 10.9: Extended Maintenance, Overhaul and, pressure testing and refilling of fire extinguishers:						
Item nr	**Description**	**Unit**	**Expected Quantity**	**Rate**	**Price for Year 1**	**Total for 60 months**
10.9	Extended Maintenance, Overhaul and, pressure testing and refilling intervals For the reconditioning, pressure testing and recharging of fire extinguishers inclusive of all supervision, labour, materials, accommodation, living out allowance and traveling costs of:					
10.9.1	Fire Extinguishers	Ea	100			
Total Bill 10.9						

Bill 10.10: Call Outs / Defects:							
Item nr	**Description**	**Unit**	**Expected Quantity**	**Days**	**Rate**	**Price for Year 1**	**Total for 60 months**
10.10	Call Outs and Defects intervals For Call Outs and Defects Intervals inclusive of all labour, accommodation, accommodation, living out allowance and travelling costs:						
10.10.1	Technician	Ea	2	10			
10.10.2	Semi-skilled	Ea	2	10			
10.10.3	Accommodation	Ea		10			
10.10.4	Travelling Cost x 3	km					
10.10.5	Living Out	Ea		10			
Total Bill 10.10							

Bill 11: Spares:				
Item nr	**Description**	**Unit**	**Expected Quantity**	**Total**
11	For the supply of the following spares:			
11.1	Conventional Head Detector IP65	EA	1	
11.2	100mm Inbal Butterfly Valve, Wafer Type, 16 Bar, Ductile Iron Body, Stainless Steel Disc, EPDM Seat, Lever Operated	EA	4	
11.3	150mm Inbal Butterfly Valve, Wafer Type, 16 Bar, Ductile Iron Body, Stainless Steel Disc, EPDM Seat, Handwheel Gear Operated	EA	4	
11.4	200mm Inbal Butterfly Valve, Wafer Type, 16 Bar, Ductile Iron Body, Stainless Steel Disc, EPDM Seat, Handwheel Gear Operated	EA	4	
11.5	150mm Inbal Wafer Check Valve, Double Door ,16 Bar, Cast Iron Body, Stainless Steel Discs, EPDM Seal, Stainless Steel Spring and Hinge Pin	EA	4	
11.6	M16 x 120 Galvanized Gr 8.8 Hexagon Set Screw	EA	30	
11.7	M16 x 125 Galvanized Gr 8.8 Hexagon Set Screw	EA	30	
11.8	M16 x 140 Galvanized Gr 8.8 Hexagon Set Screw	EA	30	
11.9	M16 x 160 Galvanized Gr 8.8 Hexagon Set Screw	EA	30	
11.10	M16 x 95 Galvanized Gr 8.8 Hexagon Set Screw	EA	20	
11.11	M16 x 90 Galvanized Gr 8.8 Hexagon Set Screw	EA	30	
11.12	M16 x 85 Galvanized Gr 8.8 Hexagon Set Screw	EA	30	
11.13	M16 x 70 Galvanized Gr 8.8 Hexagon Set Screw	EA	20	
11.14	M16 x 65 Galvanized Gr 8.8 Hexagon Set Screw	EA	20	
11.15	M20 x 155 Galvanized Gr 8.8 Hexagon Set Screw	EA	50	
11.16	M16 Galvanized Flat Washers	EA	240	
11.17	M16 Galvanized Gr 8.8 Nuts	EA	240	
11.18	M20 Galvanized Flat Washers	EA	100	
11.19	M20 Galvanized Gr 8.8 Nuts	EA	100	
11.20	1 Inch PN 25, Ball Valve, Type Boston, Brass	EA	5	
11.21	1 Inch PN 16 Brass Nickle Plated Full Bore Ball Valve, Type Venice	EA	5	
11.22	1/2 Inch PN 16 Brass Nickle Plated Full Bore Ball Valve, Type Venice	EA	5	
11.23	M12 x 600 long Stud, Galvanized, Gr 12.9	EA	5	
11.24	M12 x 560 long Stud, Galvanized, Gr 12.9	EA	5	
11.25	M12 x 1470 long Stud, Galvanized, Gr 12.9	EA	5	
11.26	M12 Galvanized, Gr 12.9 Nuts	EA	30	
11.27	M12 Galvanized Washers	EA	30	

11.28	Klamflex Coupling, 200NB, Type 218-295, 16Bar	EA	6	
11.29	Varifit Coupling, 200NB, Type 218-235, 16Bar	EA	4	
11.30	M12 x 75 Galvanized Gr 8.8 Hexagon Set Screw	EA	30	
11.31	200NB SANS 719 Heavy Duty, Carbon Steel Pipe	M	24	
11.32	150NB SANS 62 Heavy Duty, Carbon Steel Pipe	M	18	
11.33	100NB SANS 62 Heavy Duty, Carbon Steel Pipe	M	18	
11.34	200NB 90Degree Elbow, Welded Ends, Carbon Steel	EA	6	
11.35	150NB 90Degree Elbow, Welded Ends, Carbon Steel	EA	3	
11.36	100NB 90Degree Elbow, Welded Ends, Carbon Steel	EA	5	
11.37	200NB-150NB Concentric Reducer, Welded Ends, Carbon Steel	EA	2	
11.38	200NB-150NB Eccentric Reducer, Welded Ends, Carbon Steel	EA	2	
11.39	150NB-100NB Concentric Reducer, Welded Ends, Carbon Steel	EA	2	
11.40	200NB, Table 1600/3, SANS 1123, Carbon Steel Slip-On Flange	EA	16	
11.41	150NB, Table 1600/3, SANS 1123, Carbon Steel Slip-On Flange	EA	10	
11.42	100NB, Table 1600/3, SANS 1123, Carbon Steel Slip-On Flange	EA	10	
11.43	Flowmaster 250 Hydrant Flow Gauge, Type Vernon Morris, 12V DC, 2.4Ah, Working Pressure 16 bar, Max Pressure 25 bar, Inlet 2 ½ Inch Male Instantaneous, Outlet 2 ½ Inch Female Instantaneous, Supplied with gate valve assembly for static pressure readings	EA	1	
11.44	Elcometer MTG8BDL Ultrasonic Material Thickness Gauge	EA	1	
11.45	TXC5M00CP-10 Dual Element Transducer – ThruPaint, 5MHz, ¼ Inch, Right angle	EA	1	
11.46	Fuji Ultrasonic Portable Flow Meter, Portaflow, Model FSCS10B1-00Y, complete with power adaptor and power cord, sensor set for pipe diameters 50mm – 1200mm, coax cables, carry case.	EA	1	
11.47	Fuji Standard Sensor Set for Portable Ultrasonic Flow Meter, Portaflow-C Model FSSC1YY1-YY for pipe diameters 50mm – 1200mm	EA	1	
11.48	Air filter – serial No. RE508449 for John Deere Diesel Engine **CD4045C068879**	EA	5	
11.49	Oil Filter – S/N DZ118243 for John Deere Diesel Engine **CD4045C068879**	EA	5	
11.50	Fuel Filter – S/N RE60021 for John Deere Diesel Engine **CD4045C068879**	EA	5	
11.51	PLUS -50 Engin Oil for John Deere Diesel Engine **CD4045C068879**	L	10	
11.52	Fuel Pump for John Deere Diesel Engine **CD4045C068879**	EA	2	
11.53	M10 x 2000 long Stud, Galvanized, Gr 12.9	EA	5	
11.54	M10 Galvanized, Gr 12.9 Nuts	EA	30	
11.55	M10 Galvanized Washers	EA	30	
11.56	M8 x 2000 long Stud, Galvanized, Gr 12.9	EA	5	

11.57	M8 Galvanized, Gr 12.9 Nuts	EA	30	
11.58	M8 Galvanized Washers	EA	30	
11.59	100NB Globe Valve,Bolted Bonnet, Flanged ANSI B16.10, ASTM A105, Class #150, Handwheel Operated	EA	1	
11.60	100NB Slip-On Flange, Raised Face, ANSI B16.5, 150#, ASTM A-105	EA	4	
11.61	100NB Blind Flange, Raised Face, ANSI B16.5, 150#, ASTM A-105	EA	2	
11.62	Delivery of spares	EA	1	
Total Bill 11				

SUMMARY

Item Nr	Description	Price
1	Bill No 1 - Preliminary	
2	Bill No 2 – 6-Monthly inspection of fire doors.	
3	Bill No 3 – 6-Monthly inspection of fire reticulation mains.	
4	Bill No 4 – Yearly maintenance of fire protection systems	
5	Bill No 5 – Yearly water supply proving test on hydrants	
6	Bill No 6– Yearly servicing of fire pumps & drivers and field performance test of fire pumps	
7	Bill No 7 – 5-Yearly extended maintenance, overhaul and hydrostatic pressure testing of fire extinguishers, hydrant hoses and hose reels	
8	Bill No 8 – 5-Yearly Deluge Flow Control Valve Overhaul	
9	Bill No 9– 5-Yearly overhaul of fire pumps & drivers and shop & field performance test of fire pumps	
10	**Reactive Maintenance**	
10.1	Bill No 10.1 – Weld Repair and Fabrication	
10.2	Bill No 10.2 – Corrosion Protection	
10.3	Bill No 10.3 – Non-destructive Testing of Welds	
10.4	Bill No 10.4 – Repair of Fire Doors	
10.5	Bill No 10.5 – Replacement of Fire Doors	
10.6	Bill No 10.6 – Repair of Fire Stops and Intumescent Coatings	
10.7	Bill No 10.7 – Disposal of Fire Equipment	
10.8	Bill No 10.8 – Undefined Spares	
10.9	Bill No 10.9 – Extended Maintenance, Overhaul and, pressure testing and refilling of fire extinguishers	
10.10	Bill No 10.10 – Call Outs / Defects	
11	Bill No 11 – Spares	
	The total of the Prices	

PART 3: SCOPE OF WORK

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

C3.1: EMPLOYER'S SERVICE INFORMATION

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1. Description of the *service*

1.1. Executive overview

Sere Wind Farm has a nominal generating capacity of 105.8 MW which is produced from forty six SWT-2.3-108 type wind turbines, each with a capacity of 2.3 MW. The wind farm is situated on the Atlantic coast, near the towns of Koekenaap, Lutzville and Vredendal. Full commercial operation of the Wind Farm was achieved at the end of March 2015.

The GPS Coordinates for the site are as follows:

-31.49959 (Latitude), 18.11384 (Longitude)

This contract makes provision for routine and non-routine maintenance of the fire protection systems at Sere Wind Farm to ensure reliable operation of the site fire protection systems. The routine maintenance includes regular inspection, servicing and testing of the identified fire protection systems and non-routine maintenance involves service calls that are defined as maintenance and repair work requirements.

This contract constitutes a 5-year agreement that makes provision for the supply of labour, equipment and materials, parts, supervision and transportation necessary to maintain the fire protection systems at Sere Wind Farm in a serviceable condition as required by the relevant fire codes, regulations and standards.

This contract is managed by a SAQCC Accredited *Contractor* who submits detailed reports following the inspection, servicing and testing of the fire protection systems.

1.2. *Employer*'s requirements for the *service*

The scope of supply includes the following:

a) Make provision for the supply of labour, equipment and materials, parts, supervision and transportation for the completion of the services.

b) The services are managed by a SAQCC Fire Registered *Contractor* and the relevant resources that will perform the services have valid SAQCC Fire registration. Proof of SAQCC Fire registration for the relevant resources is submitted to the *Service Manager*. They are to be a Service Technician (SANS 1475), Fire Spinkler Servicing Technician (SANS 10287) or Automatic Sprinkler Inspection Bureau (ASIB).

c) The *Contractor* submits detailed reports on the completion of inspections, servicing or maintenance and tests for the respective components covered during each service period and also for all the service calls that are attended to.

d) The *Contractor* provides certification on completion of inspections, servicing or maintenance, and tests.

e) Where applicable the *Contractor* supplies, third-party test certificates for all material used for installation and repairs.

f) Material and dimensional certificates are supplied where required.

g) The *Contractor* is responsible for the supply of PPE (Personal Protective Equipment) to their own personnel working on site.

h) Supply safety file prior to start of the services or maintenance, allowing for enough time to be reviewed by the *Employer*.

The following is a summary of the tasks on the fire protection system:

Task	Equipment	Frequency
Inspection of Fire Doors	Fire Doors	6-Monthly
Inspection of Fire Reticulation Mains	Fire Reticulation Mains	6-Monthly
Maintenance of Fire Equipment	Fire Extinguishers, Hydrants, Hose Reels	Yearly
Water Supply Proving Test	Remote Hydrants	Yearly
Servicing of fire pump, driver & field performance testing of fire pumps	Diesel & Electric Fire Pumps	Yearly
Extended Maintenance, Overhaul and Hydrostatic Pressure Testing	Fire Extinguishers, Hydrant Hoses & Hose Reels	5-Yearly
Overhaul Deluge Flow Control Valves	Deluge Flow Control Valves	5-Yearly
Overhaul of Pump & Driver and Shop & Field Performance Testing of Fire Pumps	Diesel & Electric Fire Pumps	5-Yearly

All *services* performed on site at the Wind Farm premises are in accordance with the *Employers* approved procedures and instructions.

The *Service Manager* issues for each *service* a Preventative Maintenance (PM) Work Order for to the *Contractor* to fill in and complete and attached relevant *service* reports on completion of the respective *service*.

Where there is any uncertainty, discrepancy, or conflict between the Employer's Scope of Work and the applicable SANS procedures or requirements, the SANS procedures and requirements shall take precedence and be followed.

Any anomalies that are noticed during the execution of the *services* are recorded and brought to the *Service Manager's* attention immediately.

The scope of work consists of, but is not limited to, the following activities:

1.2.1.2 Six (6) Monthly

A. Perform Inspection of Fire Doors

- Perform inspection of fire doors throughout the site.
- Each door is inspected against the following:
  - Verify if there are any conspicuous problems found with the door.
  - Assess the clearances on the door assembly.
  - Assess if the door has undergone any modifications that could affect its integrity.
  - Verify if the door and frame have any certification label attached to it and what rating the assembly has.
  - Verify if the door latches properly and if it is equipped with a self-closing mechanism.
  - Verify if the construction around the frame is solid without any openings.
  - Assess if the door is of solid construction.
  - Check if hinges are properly attached.
  - Check the door to frame aligned and check for any sagging.
  - Check that the door operates freely, closes automatically and latches properly.
  - Check that the door and frames are not damaged.
  - A register is provided of all inspected fire doors with the area, certification number, door number, type and as-found condition recorded.

- For repair or replacement of any fire door assemblies or components, liaise with the *Service Manager* on the required spares and the action to be taken for repair/replacement.

B. Perform Inspection of Fire Reticulation Mains

- The fire water reticulation mains for the station is subjected to inspection and measurement.
- Visually inspect the external surfaces of the fire mains for any sign of damage and corrosion. Pipe-work, supports and valves must be free from corrosion and damage
- Check for any signs of leakage.
- Check that the pipework is properly supported.
- Check that protective coatings are in place and sound.
- Check that piping layouts conform to site drawings and documentation.
- Use an approved pipe wall thickness tester to measure and record pipe wall thicknesses at various identified points. It is preferred that measurements are taken without disturbance to the coating.
- Repeated measurements are taken in the exact original positions as previous recorded measurements to obtain an understanding of the degradation of the piping and to create a map of the pipe layout.
- The recorded measurements together with a drawing is captured in a detailed report that is submitted to the *Employer*.

1.2.1.3 Yearly

a) **Perform Maintenance of Fire Extinguishers**

- Yearly maintenance of fire extinguishers comprises of the following activities:
  - All extinguishers shall be properly cleaned and free of any dirt, grease or foreign material before inspection and service.
  - Extinguishers shall be carefully inspected for any rust, corrosion, dents, pitting or any other damage or wear.
  - Inspection for any damaged, missing or substituted parts shall be carried out.
  - Check for test and maintenance/service dates and determine if the extinguisher is due for hydrostatic pressure testing.
  - Check that the operating instructions on the extinguishers are readable and correct.
  - Inspect the pressure gauge indicator to determine if it is within operable range, if the correct gauge is installed and that there is no evidence of leakage.
  - Weigh each extinguisher to ensure adequate extinguishing agent is present. Top up or recharge extinguishers as required.
  - Remove pull pin / ring pin to check for free movement. Replace if bent or removal appears to be difficult and replace tamper seal.
  - Remove the discharge hoses and nozzles for inspection. Ensure nozzles and hoses are fit for use, unobstructed, not cracked or worn. Clean and renew where necessary.
  - Inspection and check lever / handle for smooth operation and movement and also inspect for damage. Clean, rectify and renew where necessary.
  - Renew all seals, diaphragms and washers as required during the service.
  - Complete and attach service tags / labels to extinguishers and record all information on data sheets.
  - Over and above the maintenance tag / label for the yearly service also fit a tag / label to ensure that the local fire warden can capture the detail of the monthly in-house inspection. The label must contain the following information namely: Date, Service Type, Name & Signature. The tag / label must allow for monthly recording of information between last and next extinguisher service dates.
  - Submit service certificates.

- Ensure that any extinguisher that is removed from its location for examination and hydrostatic testing, is replaced with another temporary extinguisher that conforms to the following requirements:
    - Extinguishers shall be uniquely identified, labelled and kept on a register which shall be submitted to the *employer*.
    - Safety seals and tampering devices/indicators are not broken or missing.
    - Extinguishing agent quantity is adequate, as determined by weighing or lifting.
    - Pressure gauge or indicator is within the operable range or position (green).
    - No obvious physical damage, corrosion, leakage or clogged nozzle exists.
    - Hose and nozzle are in a good condition.
    - Temporary extinguishers have the necessary certification, and it is produced on delivery of temporary extinguishers.

b) **Perform Maintenance of Fire Hydrants**

- Yearly maintenance of fire hydrants comprises of the following activities:
    - Visually inspect the hydrant valve, standpipe and respective isolating valves (where applicable) for any signs of leakage or damage.
    - Check that all hydrant valves are accessible, hand-wheels are securely fitted and that blanking caps are in good condition and in place (where applicable).
    - Check and inspect all seals and washers. Replace as necessary.
    - Inspect hydrant standpipes for signs of corrosion, damage or leaks.
    - Check that all hydrant cabinets are clearly marked and in good condition, accessible and contains only the necessary equipment.
    - Hydrant Hoses:
        - Check all branch pipes, nozzles and hose couplings are in good condition, compatible with the hydrant valves and properly stowed.
        - Unwound hydrant hose and inspect the entire hose for any cracks, cuts, leaks, wear and any other damage.
        - If any anomalies are found on a hose, a hydrostatic test shall be conducted on the hose in accordance with the following instructions:
            - Connect the hose to the testing device.
            - Ensure that the hydrostatic test is performed in a safe area away from electrical and mechanical equipment.
            - Ensure that the hose is properly restrained to prevent whipping in the event of failure. Care must be taken to minimise potential for personal injury during application of pressure and inspection of the hose.
            - Fill the hose completely with water by venting air from the nozzle.
            - Mark the hose at each coupling to determine if the hose slips from the coupling during the test.
            - Close the nozzle.
            - Slowly raise the pressure in the hose to the test pressure of 16 bar (gauge). Maintain the service pressure for at least 5 minutes.
            - Inspect the entire length of hose and couplings for leakage or signs of degradation.
            - Note and record any leakage.
            - Slowly remove pressure from the hose.
            - Inspect marks on the couplings to determine if the coupling has moved during the test.
            - Disconnect the hose from the testing device.
            - Drain and dry the hose.
            - Record results, including date of testing, and return the hose to storage.

- ❖ Foam Concentrate and Loose Equipment:
  - Check that the equipment inside the cabinet is in accordance with the cabinet contents list.
  - Check that equipment items are compatible and in good condition.
  - Check that foam concentrate containers are in good condition, seals are intact and the labels are legible.
  - Check that foam concentrate levels are correct.
  - Check signage for legibility.
- ❖ Check and ensure all components are free of damage and defects.
- ❖ A service label must be fitted on completion of the annual service.
- ❖ Over and above the maintenance tag / label for the yearly maintenance of the hydrant also fit a tag / label to ensure that the local fire warden can capture the detail of the 6-monthly in-house service. The label must contain the following information namely: Date, Service Type, Name & Signature. The tag / label must allow for 6-monthly recording of information between last and next hydrant service dates.

- Part of the maintenance of the hydrants include the flushing of the hydrants to ensure that any debris is removed and to verify that the hydrant seals properly.
  - The *Contractor* in conjunction with *Employer* identifies upfront and perform a risk assessment for flushing of the hydrants.
  - The *Contractor* performs flushing of the hydrants under direct supervision of the *Employer*.
  - The *Contractor* ensures safe and effective drainage for the water to be discharged from the supply and to prevent equipment damage. A hydrant hose can be routed to drain and secured for this purpose. The *Contractor* uses their own hose to flush the hydrants and for diverting flow away safely to drain.

c) Perform Service of Hose Reels

- Yearly maintenance of hose reels comprises of the following activities:
  - ❖ Check that the locations of hose reels are marked up correctly on the location plan/register.
  - ❖ Check that the hose reel is readily accessible with no obstacles restricting its access.
  - ❖ Check that location signs are correctly located and visible.
  - ❖ Check that operating instructions are readable and correct.
  - ❖ Check for any damage or corrosion of components that could adversely affect the operation of the reel.
  - ❖ Check that the hose reel is securely mounted and stable. Inspect the drum and discs for any signs of corrosion and damage. Make sure the hose reel drum rotates freely in both directions.
  - ❖ Check all hoses for kinking, excessive damage or wear, or collapse.
  - ❖ If any anomalies are found on a hose, a hydrostatic test shall be conducted on the hose in accordance with the following instructions:
    - Connect the hose to the testing device.
    - Ensure that the hydrostatic test is performed in a safe area away from electrical and mechanical equipment.
    - Ensure that the hose is properly restrained to prevent whipping in the event of failure. Care must be taken to minimise potential for personal injury during application of pressure and inspection of the hose.
    - Fill the hose completely with water by venting air from the nozzle.

- Close the nozzle.
- Slowly raise the pressure in the hose to the test pressure of 16 bar (gauge). Maintain the service pressure for at least 5 minutes.
- Inspect the entire length of hose and couplings for leakage or signs of degradation.
- Note and record any leakage.
- Slowly remove pressure from the hose.
- Disconnect the hose from the testing device.
- Drain and dry the hose.
- Record results, including date of testing, and return the hose to storage.

❖ Make sure nozzles are in place and inspect for any blockage, cracks, defects and damage. Ensure nozzle is in a closed position.

❖ Check that no unauthorized connections or tapping have been made to the hose reel water supply piping visible at the hose reel.

❖ A maintenance label is fitted to the hose reel on completion of the annual service.

❖ Over and above the maintenance tag / label for the yearly service also fit a tag / label to ensure that the local fire warden can capture the detail of the monthly in-house inspection. The label must contain the following information namely: Date, Service Type, Name & Signature. The tag / label must allow for monthly recording of information between last and next hose reel service dates.

d) Perform Water Supply Proving Test

- The yearly water supply proving test on the most remote hydrant is conducted
- Yearly water supply proving test comprise of the following activities:
  - The water supply proving test is conducted using an approved calibrated device and the parameters that are recorded include the pressure and flow at the discharge of the hydrant.
  - The pressure and flow of the hydrant in the powerhouse are recorded against the corresponding dam level indication.
  - The minimum flow and pressure of the hydrant at the most remote hydraulic point is 1200 L/m and 350 kPa.
  - Ensure safe and effective drainage for the water to be discharged from the supply. A hydrant hose can be routed to drain and secured for this purpose.
  - Open the hydrant valve to establish flow.
  - Ensure that the flow is under pressure.
  - Measure and record hydrant flow and pressure with approved calibrated test device.
  - Restore the hydrant station to normal condition.
  - Certification, indicating the flow and pressure of the hydrant are supplied on completion of the test.

e) Perform Servicing of Pump & Driver and Conduct Field Performance Testing of Fire Pumps

- The electric and diesel fire pumps and drivers are subjected to yearly servicing and field performance testing.
- The servicing and performance testing is conducted in accordance with the *Employer's* approved work packages.
- The *Contractor* uses a calibrated portable ultrasonic flow meter for the field performance tests.
- Electric Fire Pump Rating is as follows:
  - Flow: 3000 L/M
  - Head: 713.6 kPa

- Speed: 2360 RPM

- Diesel Fire Pump Rating is as follows:
  - Flow: 3000 L/M
  - Head: 713.6 kPa
  - Speed: 2360 RPM
- The following are tolerances from rated conditions and if these conditions are not met with the performance test, the necessary corrections must be made, and the test must be repeated.
  - Rate of flow: ±5%
  - Total head: ±5% of acceptance curve
  - Speed rotation: ±1%
  - Pump efficiency: -5%
  - Head at 150% of rated flow or maximum flow: not ≤ 65%
  - Shut-off head: not ≥ 140% of rated head
  - Voltage: not ≤ 95% and not ≥ 110%
- Servicing of pumps and drivers comprise of the following activities:
  - Pumps:
    - Conduct a visual inspection on the pumps to identify any conspicuous problems.
    - Check for any leakages on the flanges and mechanical seal.
    - Check that the control panel is free of any debris and leak tight. Note any anomalies on the control panel.
    - Check the general condition of the pump and note any anomalies.
    - Examine batteries and their connections. Test batteries and determine if replacement is required or if batteries are still in good condition. Check if the battery replacement date will be passed before the next service and if so, replace the battery. The age of the battery should be marked on it with a label. Sealed lead acid batteries should be replaced at least every 2 years.
  - Drivers
    - Megger test the motor.
    - Grease the motor bearings.
    - Replace coolant on diesel generator.
    - Replace oil filters.
    - Inspect condition of flexible hoses on the diesel generator.
    - Check operation of temperature switches on the diesel generator.
    - Inspect and clean strainers on the water supply lines for the diesel generator.
    - Check and record condition of the drivers, control panels and pipework. Report any anomalies to the *Service Manager*.

- Yearly field performance test of the fire pumps comprises of the following activities:
  - Note that the jockey and diesel fire pump require to be isolated for the electric fire pump flow test and vice versa for the diesel fire pump test.
  - Install a potable ultrasonic flowmeter on the test return line to the fire reservoir.
  - Monitor and record the reservoir and diesel day tank levels prior to the conducting the test.
  - Manually or automatically start the pump. Automatic starting is initiated by opening a valve on the pressure sensing line. The pressure switch should activate the pump to start. Record any anomalies such as automatic start failure.
  - While the pump is running:
    - Monitor and record the pressure and flow using an approved calibrated flow test device at the respective valve positions according to flow specifications.
- On completion of the test, stop the pump and restore all pumps and valves to normal standby line-up.

- Monitor and record the reservoir and diesel day tank levels.
- Record any anomalies.

1.2.1.4 Five (5)Yearly

a) Perform Extended Maintenance, Overhaul and Hydrostatic Pressure Testing of Fire Extinguishers

- Fire extinguishers for the power station subjected to a 5-yearly Extended Maintenance, Overhaul and hydrostatic pressure test.
- Complete and attach pressure test maintenanceservice tag / label to extinguishers and record the information on the pressure test tag / label: *Date Last Pressure Tested*, *Next Pressure Test Date, Pressure Tested* By.
- Submit pressure test certificates.
- Ensure that the hydrostatic test is performed off site from the wind farm.
- Ensure that any extinguisher that is removed from its location for hydrostatic testing, is replaced with another temporary extinguisher that conforms to the following requirements:
    - Extinguishers are uniquely identified, labelled and kept on a register which is submitted to the *Employer*.
    - Safety seals and tampering devices/indicators are not broken or missing.
    - Extinguishing agent quantity is adequate, as determined by weighing or lifting.
    - Pressure gauge or indicator is within the operable range or position (green).
    - No obvious physical damage, corrosion, leakage or clogged nozzle exists.
    - Hose and nozzle are in a good condition.
    - Temporary extinguishers are in compliance with Pressure Equipment Regulations (PER) and have the necessary certification (manufacturing and pressure test certificates) and is produced on delivery of temporary extinguishers.

Extended maintenance procedures

- The procedures of annual maintenance are carried out with the procedures.
- Determine whether the fire extinguisher may have been operated by checking the reading on the pressure indicating device and the status of any activation device. Depressurize if necessary and open the fire extinguisher.
- Empty all fire extinguishers, except the halon and CO2 types, ensuring that any extinguishing medium that is still within its lifespan and may be fit for reuse is emptied into a clean receptacle.
- Examine the extinguishing medium in accordance with the manufacturers' instructions and the safe working practices.
- Examine in detail for corrosion, damage, dents, gouges on

  a) top cap and operating head assemblies,

  b) activation and pressure indicators, and

  c) discharge hose and nozzle.
- Examine the cylinder externally and internally in detail for corrosion, dents, cuts, gouges or lining damage. Special attention shall be given to the welds. In case of doubt about welds, follow the instructions of the manufacturer.
- Examine and check all closures for correct thread, form, size and coating.
- Return to operational condition. Reassemble and refill the fire extinguisher in accordance with the manufacturers' instructions.

- Fit new security seal and complete the maintenance label.

Overhaul procedures

- The procedures of yearly maintenance and extended maintenance are carried out with the procedures.
- Strip down completely the components of the fire extinguisher and replace all corroded or damaged components.
- Pressure test the cylinder to the specified test pressure.
- Replace or check the safety device in accordance with the manufacturers' instructions.
- Reassemble, and recharge the fire extinguisher, fit new security seal and complete the maintenance label and the pressure test label.

Extinguisher pressure test procedure

- Remove all top caps, operating head assemblies, internal parts, and hose assemblies and empty the fire extinguisher.
- Remove all traces of extinguishing mediums from inside the cylinder of all powder types of extinguishers.
- To conduct maintenance or a hydrostatic test, disconnect the regulator or low-pressure hose from the media cylinder on wheeled extinguishers equipped with a regulator(s),
- Remove the top cap or operating head assembly on all wheeled stored pressure powder extinguishers and replace with an acceptable test closure.
- Using a flexible connection, attach the hose of the hydrostatic test pump to the discharge outlet, hose assembly, test bonnet, or test fitting as is applicable. In the case of wheeled powder extinguishers, procedures and fittings should be those prescribed by the manufacturer.
- Turn on the water supply to the test pump and fill the extinguisher to the top of its collar.
- For extinguishers tested with their top caps on, tighten the cap slowly while the water supply remains open. When all the entrapped air within the cylinder has been bled off and after water emerges, tighten the cap fully.
- For extinguishers tested with a test closure or fitting, tighten the bonnet or fitting fully while the water supply remains open. When all the entrapped air within the cylinder has been bled off and after water emerges, close the vent tightly.
- Apply pressure at an even rate of pressure rise until the test pressure is reached. Maintain this pressure for at least 60 s. Make observations at this stage to note any distortions or leakages of the extinguisher cylinder.
- If no distortion or leakage is noted and if the test pressure has not dropped, release the pressure on the extinguisher cylinder.
- The extinguisher is then considered to have passed the hydrostatic test.

b) Perform Maintenance and Hydrostatic Pressure Testing of Hydrant Hoses

- Maintenance and Hydrostatic pressure testing of hydrant hoses is conducted in accordance with the following instructions:
    - Connect the hose to the testing device.
    - Ensure that the hydrostatic test is performed in a safe area away from electrical and mechanical equipment.

- Ensure that the hose is properly restrained to prevent whipping in the event of failure. Care must be taken to minimise potential for personal injury during application of pressure and inspection of the hose.
- Fill the hose completely with water by venting air from the nozzle.
- Mark the hose at each coupling to determine if the hose slips from the coupling during the test.
- Close the nozzle.
- Slowly raise the pressure in the hose to the test pressure of 16 bar (gauge). Maintain the service pressure for at least 5 minutes.
- Inspect the entire length of hose and couplings for leakage or signs of degradation.
- Note and record any leakage.
- Slowly remove pressure from the hose.
- Inspect marks on the couplings to determine if the coupling has moved during the test.
- Disconnect the hose from the testing device.
- Drain and dry the hose.
- Record results, including date of testing, and return the hose to storage.
- Submit certification.

c) Perform Maintenance and Hydrostatic Pressure Testing of Hose Reels

- Maintenance and Hydrostatic pressure testing of hose reels is conducted in accordance with the following instructions:

  - Connect the hose to the testing device.
  - Ensure that the hydrostatic test is performed in a safe area away from electrical and mechanical equipment.
  - Ensure that the hose is properly restrained to prevent whipping in the event of failure. Care must be taken to minimise potential for personal injury during application of pressure and inspection of the hose.
  - Fill the hose completely with water by venting air from the nozzle.
  - Close the nozzle.
  - Slowly raise the pressure in the hose to the test pressure of 16 bar (gauge). Maintain the service pressure for at least 5 minutes.
  - Inspect the entire length of hose and couplings for leakage or signs of degradation.
  - Note and record any leakage
  - Slowly remove pressure from the hose.
  - Disconnect the hose from the testing device.
  - Drain and dry the hose.
  - Record results, including date of testing, and return the hose to storage.
  - Submit certification.

d) Perform Overhaul of Deluge Flow Control Valves

- The deluge flow control valves are subjected to a 5-yearly internal inspection and overhaul of which the activities comprise of the following:

  - Disassembly and removal of components.
  - Cleaning and inspection of components.
  - Renewal of the valve diaphragm.
  - Renewal of valve seat and seals.
  - Renewal of damaged components.
  - Renewal of gaskets.
  - Reassembly of the valve.
  - Functional testing of the deluge valve.

- A service label must be fitted on completion of the 5-yearly service.
- Submit certification.

e) Perform Overhaul of Pump & Driver and conduct Shop & Field Performance Testing of Fire Pumps

- The electric and diesel fire pumps and drivers are subjected to 5-yearly overhaul and the pumps are subjected to performance testing at the *Contractor's* works and after installation at the *Employer's* premises.
- The *Contractor* make provision for all spares and material required for the overhaul of the pumps and drivers.
- The *Contractor* liaises with the *Employer* on the programme of the overhaul to ensure minimal impact on the availability and reliability of the fire protection system.
- The *Contractor* collects the electric pump and motor from the *Employer's* premises and transport the pump and motor to the *Contractor's* works for the overhaul and performance test.
- Electric Fire Pump Rating is as follows:
  - Flow: 3000 L/M
  - Head: 713.6 kPa
  - Speed: 2360 RPM
- Diesel Fire Pump Rating is as follows:
  - Flow: 3000 L/M
  - Head: 713.6 kPa
  - Speed: 2360 RPM
- The following are tolerances from rated conditions and if these conditions are not met with the performance test, the necessary corrections must be made, and the test must be repeated.
  - Rate of flow: ±5%
  - Total head: ±5% of acceptance curve
  - Speed rotation: ±1%
  - Pump efficiency: -5%
  - Head at 150% of rated flow or maximum flow: not ≤ 65%
  - Shut-off head: not ≥ 140% of rated head
  - Voltage: not ≤ 95% and not ≥ 110%
- The *Contractor* delivers and off-load the pump only once the pump has successfully passed the performance test.
- The *Contractor* installs the pump at the *Employer's* premises and perform alignment of pump and motor on completion of installation.
- The *Contractor* commission the pump and conduct flow testing in accordance with the *Employer's* approved work packages.
- The field performance testing is conducted as per instructions below and in accordance with the *Employer's* approved work packages.
  - Note that the jockey and diesel fire pump require to be isolated for the electric fire pump flow test and vice versa for the diesel fire pump test.
  - Install a potable ultrasonic flowmeter on the test return line to the fire reservoir.
  - Monitor and record the reservoir and diesel day tank levels prior to the conducting the test.
  - Manually or automatically start the pump. Automatic starting is initiated by opening a valve on the pressure sensing line. The pressure switch should activate the pump to start. Record any anomalies such as automatic start failure.
  - While the pump is running:
  - Monitor and record the pressure and flow using an approved calibrated flow test

device at the respective valve positions according to flow specifications.

- The *Contractor* only removes the second pump for overhaul once the first pump has successfully been commissioned and undergone flow testing.
- Overhaul of Pump Drivers:
    - The *Contractor* removes and delivers the electric motor to the *Contractor's* works for overhaul and megger testing.
    - The *Contractor* delivers and off-load the electric motor at the *Employer's* premises.
    - Overhaul of diesel engine and electric motor is performed in accordance with approved instructions from the *Employer*.
    - The overhaul of the diesel engine for the diesel fire pump is performed at *theEmployer's* premises.
    - Overhaul of the diesel engine is performed by an approved supplier from a Diesel Engine Manufacturer.
    - The *Contractor* installs, test and commission the electric motor.
    - The overhaul of the diesel engine for the diesel fire pump is performed at the *Employer's* premises.
    - The *Contractor* test and commission the electric motor.

1.2.1.5 Reactive Maintenance

The *Contractor* shall be available to perform inspections, repairs, refurbishments for unforeseen defects that have occurred on the system and to provide the necessary spares.
The following is a summary of the reactive maintenance tasks and provision of spares on the fire protection system:

1.2.1.6. Weld repair and fabrication, consisting of but not limited to pipework, structures, plant components, etc.

- Scope of work is as follows:
    - Perform weld fabrication of pipework, structures and plant components, etc.
    - Provide necessary requirements for performing welding, comprising of the following:
        - A coded welder is used.
        - *Contractor* submits ISO 3834 Certificate.
        - Welding requirements is in accordance with Eskom Standard 240-106628253 –Standard for Welding Requirements on Eskom Plant.
            - Provide a Welding Procedure Specification (WPS) supported by a valid Weld Procedure Qualification Record (WPQR)/Procedure Qualification Record (PQR) and Weld Qualification Record (WQR) for welding that will be performed during fabrication.
        - Weld procedure qualification for all welds is in accordance with the appropriate welding standard incorporated into the relevant design and construction code.
        - The WPS and WPQR/PQR is approved by a registered IWE or IWT with the minimum requirements as defined in the Eskom Standard 240-106628253.
        - The WPQR/PQR is submitted with its relevant NDT and DT reports.
    - *Contractor* makes provision for the following:
        - Supply of materials, consumables, tools and equipment to perform welding.
        - Supply of labour
        - Travelling Cost
        - Accommodation
        - Living Out Allowance

1.2.1.7. Corrosion Protection.

- Scope of work is as follows:

- Perform sandblasting and hot-dip galvanising of fabricated components.
- Components are sandblasted and hot dip galvanised in accordance with SANS 121.
- *Contractor* makes provision for the following:
  - ✓ Transport of materials for corrosion protection.
  - ✓ Hot-dip galvanising of components.

1.2.1.8. Non-Destructive Testing of Welds

- Scope of work is as follows:
  - Perform non-destructive testing of welded connections.
  - All welded connections are subjected to dye penetrant testing.
  - NDT on welds is performed according to the requirements of the relevant design and construction codes and Eskom Standards 240-83539994 and 240-83540088.
  - Provide qualifications of the NDT personnel.
  - Provide NDT procedures.
  - *Contractor* makes provision for the following:
    - Supply of materials, consumables, tools and equipment to perform non-destructive testing.
    - Supply of labour
    - Travel cost
    - Accommodation
    - Living Out Allowance

1.2.1.9. Repair of Fire Doors

- Scope of work is as follows:
  - The repair of fire doors is conducted in accordance with the requirements of Eskom Guideline 559-212114010 – Fire Doors – Selection, Installation, Inspection and Maintenance Guideline, SANS 1253 – Fire-doors and fire-shutters and Eskom Work Instruction 240-147741101 – Structural Design Works Information and Technical Specification Work Instruction.
  - The *Contractor* carries out in-field repairs on existing fire doors to restore doors to its original design condition.
  - The *Contractor* supplies hardware for the doors that includes the following:
    - Latching mechanism
    - Hinges
    - Doorknobs / levers
    - Self-closing mechanism
  - The *Contractor* issues a Certificate of Compliance (C.O.C.) on completion of the remedial work.
  - The *Contractor* makes provision for the following:
    - Supply of materials, consumables, tools and equipment for the repair of fire doors.
    - Supply of labour
  - Travel cost
  - Accommodation
  - Living Out Allowance

1.2.1.10. Replacement of Fire Doors

- Scope of work is as follows:
  - The *Contractor* assesses the site in conjunction with the *Employer* to ascertain and determine the scope of work.
  - The replacement of fire doors is conducted in accordance with the requirements of Eskom Guideline 559-212114010 – Fire Doors – Selection, Installation, Inspection and Maintenance Guideline, SANS 1253 – Fire-doors and fire-shutters and Eskom Work Instruction 240-147741101 – Structural Design Works Information and Technical Specification Work Instruction.
  - The *Contractor* takes note of the following requirements pertaining to the replacement of fire doors:

- In the event that the entire assembly (door and frame) is replaced, the assembly must have the required certification labels i.e. label on both door and frame.
- If existing frames are to be re-used, then the *Contractor* must demonstrate by means of the test certification that the existing frame dimensions are in compliance with the prototype (test) assembly.
- Since the door assembly dimensions throughout site differs, it is required from the *Contractor* to take measurements of each individual door assembly that require replacement to ensure that the dimensions and clearances are in compliance with the required standards once installed.
- All hollow frames are required to be backfilled using a fire-rated mortar.
- The type of doors to be installed in various areas are in compliance with the relevant standards and the proposed doors for installation is subjected to approval from the *Employer*.
- The *Contractor* is required to supply a Certificate of Conformance for each installed door.
- The *Contractor* is required to supply Certification of Installation for each door.
- The *Contractor* is required to supply Test Certification for each door.
- The *Contractor* is required to supply the installation procedure(s) as per the manufacturer's instructions for the *Employer* to review.

- Removal of old door
  - Removal of all hardware on the door, including of latching mechanism, self-closing mechanism, hingers and door lever/knob.
  - Detach the door and carefully remove the door from its frame with a pry bar or hammer.
  - Where required, remove the frame using a breaker, drill hammer and chisel. Carefully remove up to 300mm to 400mm wide of the old brick and plaster wall on all sides of the opening and around the old door frame.
  - Inspect the frame before installing the replacement door. Check the wall and door frame surfaces for any damage and irregularities.
- Installation of new door
  - Take precise measurements of the door frame to ensure the new fire -rated door will fit properly.
  - Prepare the door frame by removing the any debris or obstructions that may prevent installation.
  - Install the new door and secure the new fire rated door with screws or fasteners.
  - Conduct finishing around the door frame by building a new brick wall (300-400mm wide) around the door frame and ensure that it remains plum throughout the building process.
  - Place fire-rated foam between the door frame and the brick gaps on both sides of the door frame.
  - Apply plaster mix to all new brick surfaces. Finish precisely around the door frame and on the existing wall surfaces.
  - Once all plaster surfaces have dried, apply a plaster priming coat, followed by two final coats. Since the door frame comes with red oxide primer, only two final coats will be applied before the door is installed. The door must be painted before installation with one priming coat followed by two finishing coats.
  - Install hardware such as hinges, doorknobs/levers, latching and self-closure mechanisms on the new door.
  - Test the door by opening and closing it to ensure smooth operation.
  - Seal any gaps between the door and the door frame and the wall using fire-rated sealant to ensure fire integrity.
  - Check for compliance with building norms and requirements for fire-rated doors.
  - Verify that both frame and door is equipped with a label.
- The *Contractor* issues a Certificate of Compliance (C.O.C.) and relevant certification of the assemblies on completion of the installation.
- The *Contractor* makes provision for the following:
  - Supply of materials, consumables, tools and equipment for the replacement of fire doors.
  - Supply of labour
  - Travelling Cost
  - Accommodation

- Living Out Allowance
- Delivery of Materials

1.2.1.11. Repair & Installation of Fire Stopping and Intumescent Coatings

- Scope of work is as follows:
  - Conduct repair and installation of fire stops and cable coating in accordance with the following instructions as detailed below.

- **Fire Stopping of Penetrations**
  - The *Contractor* supply, deliver and offload the fire stopping material.
  - Conduct sealing of penetrations on identified plant areas and in accordance with the approved instructions.
  - Provide all necessary equipment, tools & material required to complete the *service*. Fire stop material is of the water based intumescent fire-retardant type.
  - The *Contractor* provides third party test certificates for the proposed fire stop material.
  - The *Contractor* provides material safety datasheets and technical datasheets for the fire stop material.
  - Proposed fire stop material that has extensively been used on Peaking sites include:
    - Product: Mineral Wool Panel – Mandoval Vermiculate
    - Product: Pyrosafe WB – Mandoval Vermiculate
    - Product: TEKROK “S” Plaster – Mandoval
  - All fire stops shall have a fire rating in accordance with SANS 1077 or equivalent of the fire rating up to the structure or partition, or two (2) hours, whichever is the greater against the spread of fire and smoke.
  - Fire stop material shall meet Factory Mutual (FM) Approval, Underwriters Laboratory (UL) requirements.
  - Fire stopping systems are required to have been fire tested to the requirements of SANS1077, IEEE 634, ASTM E814.
  - Fire stop material shall be non-toxic, asbestos and lead free.
  - Fire stop material shall be resistant to chemicals, oils and lubricants.
  - Fire stops shall be weather resistant and suitable for both indoor and outdoor use.
  - Fire stops shall not affect cable ratings.
  - Any cables entering/leaving a wall, floor or penetration shall be coated on both sides of the wall/floor to a length of 2 meters.
  - Fire stops must be capable of being easily re-opened to allow the installation of future services.

- **Cable Coating**
  - The *Contractor* supplies, deliver and offload the cable coating material.
  - Conduct cable coating on identified plant areas and in accordance with the approved instructions.
  - Application of coats is done by hand.
  - Provide all necessary equipment, tools & material required to complete the service.
  - The *Contractor* provides third party test certificates for the proposed cable coating material.
  - Cable coating material is of the water based intumescent fire-retardant type
  - Proposed fire stop material that has extensively been used on Peaking sites include:
    - Product: Pyrosafe WB - Mandoval Vermiculate
  - Cable coating systems are required to have been fire tested to the requirements of SANS10177 or equivalent such as IEEE 634 and ASTM E814.
  - Test certificates must prove the two (2) hour rating and must not be older than 5 years.
  - Cable coating material shall be non-toxic, asbestos free and lead free.
  - Cable coating material shall be resistant to chemicals, oils and lubricants.
  - Coated cables shall be weather resistant and suitable for both indoor and outdoor use.
  - Cable coating shall not affect the current carrying capacity of the cables.
  - The *Contractor* shall ensure that proper surface preparation is carried out in order for the fire-retardant coat to function as intended by design.

- Any cables entering/leaving a wall, floor or penetration shall be coated on both sides of the wall/floor to a length of 2 meters.
- Cables shall be coated in lengths of two metres every 5 meters.

- The *Contractor* makes provision for the following:
  - Supply of materials, tools and equipment to perform fire stopping and cable coating.
  - Supply of labour
  - Transport
  - Travelling Cost
  - Accommodation
  - Living Out Allowance

1.2.1.12 Disposal of Fire Equipment

- Scope of work is as follows:
- The *Contractor* disposes of any fire equipment identified by the *Employer* in a safe handling and disposal method and provide a safe disposal certificate for any equipment disposed.
- The *Contractor* make provision for the following:
  - Transport of materials for disposal purposes.

1.2.1.13. Extended Maintenance, Overhaul , Pressure Testing and Refilling of Fire Extinguishers

- Scope of work is as follows:
  - The *Contractor* reconditions, pressure test and refill fire extinguishers that is required to undergo such service following the routine servicing.
  - The *Contractor* make provision for the following:
    - Transport of materials.
    - Extended maintenance fire extinguishers
    - Pressure test fire extinguishers
    - Refill fire extinguishers

1.2.1.14 Undefined Spares

- The *Contractor* makes provision for the supply of spares not defined because of unplanned breakdowns, degradation of equipment and scrapped components.
- Spares include, but is not limited to the following:
  - Extinguishers
  - Fire equipment signage
  - Hydrant caps
  - Extinguisher cabinets
  - Hydrants
  - Batteries

1.2.1.15 Call Outs / Defects

- The *Contractor* makes provision for call outs to attend to breakdowns and any faults that occurs on the fire protection system.
- The *Contractor* makes provision for the following:
  - Supply of labour
  - Travelling Cost
  - Accommodation
  - Living Out Allowance

1.3. Obsolete or unavailability of spares.

- The *Contractor* supplies a list with specifications and data sheets of equivalent spares for any spares that are found obsolete from the specified list of spares.
- The use of equivalent spares is regarded as an Engineering Change which is governed by the Engineering Change Management Procedure 240-53114002. The *Employer* must first obtain approval as per the Engineering Change Management (ECM) Process before any equivalent spares can be obtained.

1.4. Spares no longer required due to upgrades.

- The *Employer* informs the *Contractor* in advance of any spares that are no longer required as a result of planned upgrades by the *Employer*.

1.5. Spares that contain banned substances.

- The *Contractor* provides assurance to the *Employer* that the spares do not contain any of the banned substances as per the National Environmental Management Act 107-1998:
    - **Hexabromocyclododecane (HBCD)** – flame retardant in polystyrene insulation.
    - **Hexachlorobutadiene (HCBD)** – solvent in industrial processes.
    - **Polychlorinated naphthalenes (PCN)** – used in electrical insulation.
    - **Decabromodiphenyl ether (decaBDE)** – flame retardant in plastics and textiles.
    - **Short-chain chlorinated paraffins (SCCP)** – additives in lubricants and sealants.
    - **Perfluorooctanoic acid (PFOA)** and related compounds – used in non-stick coatings.
    - **Perfluorooctane sulfonic acid (PFOS)** – surfactant in firefighting foams.
    - **Various brominated diphenyl ethers (Hexa-BDE, Hepta-BDE, Tetra-BDE, Penta-BDE)** – flame retardants in electrical components.
- The *Contractor* provides declaration in writing that none of the spares contain any banned substances as detailed under section 12 above.

1.6. Interpretation and terminology

The following abbreviations are used in this Service Information:

Abbreviation	Meaning given to the abbreviation
OBL	Outside battery limits
SAQCC	South African Qualification and Certification Committee
SCADA	Supervisory Control and Data Acquisition
PER	Pressure Equipment Regulations
PPE	Personal Protective Equipment
ESKOM	Electricity Supply Commission
km	kilometre
MW	Megawatt

2. Management strategy and start up.

2.1 The *Contractor's* plan for the service

The *Contractor* prepares his plan on MS project format computerised planning software and utilises it for all planning, progress monitoring and reporting. The plan shows all the information required by Clause 21.2 of the TSC3.

In addition, the plan shows:

- The plan indicates the start date, Completion Date and duration of each activity.
- The plan revision number

2.2 Management meetings

Regular meetings of a general nature may be convened as and when required as follows:

Title and purpose	Approximate & interval	Location	Attendance by:
Kick-off meeting	Interval: Once-off	Sere wind farm / MS Teams	*Employer, Service Manager, Contractor, and Others as required*
Overall contract progress and feedback	Interval: Daily	Sere wind farm / MS Teams	*Employer, Service Manager, Contractor, and Others as required*
Risk Reduction meeting	Adhoc	Sere wind farm / MS Teams	*Employer, Service Manager, Contractor, and Others as required*
At the risk reduction meetings items as prescribed in TSC Clause 16.2 and 16.3 are discussed. The Risk Register is updated by *Service Manager* and distributed within five days of the meeting.			
Meetings of a specialist nature	Adhoc	Sere wind farm / MS Teams	*Employer, Service Manager, Contractor, and Others as required*

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 including MS Teams recording transcript or a register prepared and circulated by the person who convened the meeting. Such minutes, MS Teams recording transcript or register shall not be used for the purpose of confirming actions or instructions under the contract as these shall be done separately by the person identified in the *conditions of contract* to carry out such actions or instructions.

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

The *Contractor* provides competent personnel to supervise and perform the *service*, an organogram depicting the resources on site and their lines of authority/communication.

The Organogram shall include current contact details and emergency response (24-hour) information.

The *Contractor* ensures that the *Contractor* employees are reasonably fluent in the language of the contract.

The *Contractor* maintains at all times a harmonious relationship and co-operates with the *Employer* and all its Suppliers and sub-suppliers or their employees who may be involved.

The *Contractor* shall verify its employees qualifications.

2.4. Documentation control

Where required, the *Contractor* may be requested to supply a document in its originally compiled format i.e Word, Excel, Visio to facilitate the *Employer's* review or documentation updates. The *Contractor* provides, upon request the documents in its originally compiled format.

2.5 Communication

All Communication is addressed to the *Service Manager* as applicable to the TSC3, clause 13.1,

All communication refers to:

- The Contract Number that is issued by the *Employer* (normally a 46000…..)
- The Contract title.
- Any previous reference relating to the specific communique.
- The Specific TSC clause under which the communication is issued.
- Whether a reply is required and,
- A unique letter reference number.

The unique reference number to be used for written correspondence between the *Service Manager* and *Contractor* and vice versa is as follows:

From the *Service Manager* to the *Contractor*: 46000…... E/C 0xxx; and
From the *Contractor* to the *Service Manager* 46000 C/E 0xxx referring to the Contract number and the next sequential letter (channel) number

2.6 Invoicing and payment

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 showing the amount due for payment equal to that stated in the *Service Manager*'s payment certificate.

The *Contractor* shall address the tax invoice to
Local Eskom Invoices - invoiceseskomlocal@eskom.co.za
and 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;
- Relevant Task Order Number (commencing with a 45 prefix)
- Relevant task order line-item number
  - Attach the proof of delivery to your invoice
- The *Services Manager* to be copied in on all electronic invoices emailed

Failure to submit the invoice to the correct address could result in delays in payment.

2.7 Contract change management

The use of Standard forms is encouraged and is obtainable from the *Service Manager* for instances like compensation events Contract change management is managed in accordance with clause 6 of the core clauses in TSC3.

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

The *Contractor* keeps records of defined costs and submits them to the *Service Manager* for Compensation Event when required for the purpose of assessing Compensation Events. The submission of such records does not automatically entitle the *Contractor* to Compensation Events

2.9 Insurance provided by the *Employer*

Insurance will be applicable as per applicable insurance reference and clauses in the *Employer's* Contract data.

2.10 Design and supply of Equipment

The scope of the work is described in this specification. No alteration to- or on equipment is allowed without the written consent of the *Service Manager*.

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

2.11.1. Equipment

Any tools and consumables purchased during the Contract Period and charged to the *Employer* under this Agreement shall remain the property of the *Employer.*

2.11.2. Information and other things

The *Contractor* provides a detailed service report following each service period.

The Contractor provides material and test certificates and material safety data sheets for all spares.

2.12 Management of work done by Task Order

The *Service Manager* shall issue the *Contractor* with a Task Order (commencing with a 45 prefix). This task order authorises work to be done by the *Contractor*. No works are to be executed without a Task Order
The *Service Manager* issues a Task Order to the *Contractor* which specifies clearly the work to be performed, additional specification; procedures; and any other constraints in providing the service. The Task Order is issued before *Contractor* provides the service.

The *Services Manager* issues the task order to the contract in a timely manner that allows the *Contractor* to properly plan the service within the time period(s) stated on the task order.
The *Contractor* performs the service in accordance with the task order issued and completes it within the time period specified in the task order.

All services provided comply with this contract and procedures stated.
Should the *Contractor* be unable to supply the resources required to complete the task order within the period specified the *Contractor* immediately notifies the *Service Manager*. The notification includes recommendations as to how the work can be completed timeously.

3. Health and safety, the environment and quality assurance

3.1. Health and safety risk management

3.1.1 The *Contractor* shall comply with the health and safety requirements contained in OHS Requirements and the approved safety file by *Employer*. *Employer* reserves the right to review the OHS Requirements to address the Operational risks and the *Contractor* shall comply with the latest OHS Requirements as amended at no cost for the duration of the contract at Sere Wind Farm.

3.1.2 The section 37(2) agreement as stipulated under the OHS Act no 85 of 1993 must be signed by *Contractor* and *Employer* representatives.

3.1.3 The *Contractor* OHS professional must conducts internal audits at planned intervals (for the duration of the contract at Sere Wind Farm to monitor compliance to the contractual health and safety requirements.

3.1.4 The *Service Manager* must conduct inspections at planned intervals (for the duration of the contract at Sere Wind Farm to monitor compliance to the contractual health and safety and legal requirements.

3.1.5 The *Contractor* may be selected during internal and/or external Sere Wind Farm audits to verify compliance to legal and contractual OHS requirements. The *Service Manager* will communicate this at relevant time periods and the contractor shall avail themselves for this audit.

3.1.6 In addition to the requirements of the applicable laws governing the occupational health and safety, Sere Wind Farm OHS requirements particular to the service and the Affected Property for this contract shall be adhered to for the duration of the contract.

The minimum requirements for the *Contractor* to gain access to Sere Wind Farm include the but not limited to:

- Valid Medical fitness certificate
- Police clearance from SAPS or accredited supplier/service provider linked to SAPS AFIS system not older than thirty (30) days.
- Identification document (RSA ID or equivalent)
- National Drivers Licence (applicable to drivers)
- Adherence to the Eskom Life-saving rules.
- Applicable risk-based PPE.
- Valid letter of good standing always (COIDA or equivalent). Access to site to perform work will be denied should the Letter of good standing not be valid.
- The *Contractor* who is working alone and not eligible to register with the compensation fund, shall provide *Employer* with the member benefit statement of the insurance cover which include life and disability cover to the minimum fund of R500 000.

Note: Induction will only be conducted after the above documents have been submitted and accepted by *Employer*.

3. 2 Key Performance Indicators

1. *Contractor* Management Key Performance Indicators (KPI's)
2. Maintain Health and Safety file and compliance to the health and safety plan, *Employer* OHS requirements and applicable legislation as amended.
3. Always maintain good housekeeping where the task is being executing and/or within the area of responsibility.
4. Implement and monitor near miss reporting strategy / programme (reporting of near misses).

5. Develop and comply to Behavioural Safety Observation (BSO) and Planned Job Observation programmes (PJO).
6. Maintain Zero Fatalities for the duration of the contract.
7. At any given point, the OHS performance must be within the lost time injury (LTI) tolerance level as amended.
8. All incidents must be reported immediately or before the end of the particular shift during which the incident occurred.
9. All incident investigations shall be completed within 07 working days of the occurrence of an incident.
10. Incident investigation recommendations shall be closed within the recommended time frame recorded in the Incident investigation report.
11. Close audit findings as per the *Employer's* procedure or audit report recommended time frames.
12. Close Non-conformance as per the recommended time frames.

Note: Monitoring of the above mentioned KPI's will take place through regular audits and inspection.

3.3 Contract completion and sign off

On completion of the contract, *Employer's* team (led by the *Service Manager*) involved in the contract together with the *Contractor* shall conduct the final meeting to identify the gaps prior to the contract close out. Before the final invoice is paid/processed, the *Service Manager* shall ensure that the below requirements are met:

a) Close all incidents and audit findings.
b) Clean the respective area and ensure good housekeeping where the *Contractor* was working.
c) *Contractor* shall submit safety statistics and a safety file to *Employer's* Safety Department for closeout and filling.

Completion of a closeout report to close the contractual work.

4. Environmental constraints and management

The *Contractor*'s rates tendered shall cover all costs that will be incurred to comply with all requirements of the environmental requirements. Special attention is drawn inter alia to the following aspects:

- The *Contractor*'s attention is drawn to the fact that the Sere Wind Farm is situated in a highly sensitive environmental area and that any incident that may result in an environmental impact must be brought to the attention of the *Service Manager* as soon as it is possible. The site is managed in accordance with an ISO 14001 certified management system, and the *Contractor* will be expected to manage all processes in line with environmentally sound principles.
- The *Contractor*, in and about the execution of the service, complies with all applicable national, provincial and Municipal environmental legislation and by laws.
- Comply with all environmental legislation of South Africa, including but not limited to:
  National Environmental Management Act 107 of 1998
  National Environmental Management Waste Act 59 of 2008
  National Water Act 36 of 1998
  Eskom Waste Standard latest revision
  Waste Management: Norms and standards: Act 59 of 2008 latest revision
- The *Contractor* shall comply to all National and Local legislation requirements as well as *Employer's* procedures and policy. *Employer's* goal is to ensure zero harm to the environment, and to ensure that any possible impact is mitigated or managed. The Duty of Care and implementation of best practice is critical during operations, and full communication on environmental issues is required at all times.
- Site/laydown demarcation: The *Contractor* shall demarcate his camp site, be restricted to that specific area and take full responsibility to restore the area to its original condition before the contract commenced.
- Waste management: The *Contractor* shall dispose of all waste off-site at a licensed waste disposal facility and submit proof to the *Employer*. The method statement on waste management will need to include the identification of possible waste streams, temporary storage and disposal options for each

waste type, and contingency plans in the case of any environmental incident. A Safety Data Sheet must be supplied for all chemical or hazardous / potentially hazardous material brought onto site."

- Sanitation: The *Contractor* shall provide an appropriate enclosed temporary sanitation facility
- Dust control: The *Contractor* shall be responsible to apply effective dust control measures.
- Fire prevention: It shall be the responsibility of the *Contractor* to prevent fires at all times during the contract.
- The *Contractor* shall take full responsibility for protecting the natural environment and eliminating or minimising the negative impacts of construction on the environment during construction. Nothing specified herein shall relieve the *Contractor* of any obligations or responsibilities in this regard.
- The *Contractor* shall implement an Environmental Policy and plan, in line with relevant various compliance obligations, statutory regulations, including all national, provincial and municipal legislation/regulations.
- Method statements which include environmental protection shall be submitted to the *Service Manager* within 14 days after the starting date.
- The *Contractor* shall conduct his activities so as to cause the least possible disturbance and adverse impact to the existing amenities, whether natural or man-made, in accordance with all the currently applicable statuary requirements. Special care shall be taken by the *Contractor* to prevent irreversible damage to the environment.
- The *Contractor* shall take adequate steps to educate all members of his workforce as well as his *Supervisor*y staff on the relevant environmental laws and regulations. The *Contractor* shall supplement these steps by prominently displayed notices and signs in strategic locations to remind personnel of environmental concerns.

Method Statements

The *Contractor* shall submit, before 14 calendar days of commencement of any activity, a Method Statement containing details of all site layouts and environmental protection measures proposed to the *Service Manager* for review and acceptance.

These shall include but not limited to:
i. Site establishment layout;
ii. Pollution prevention measures;
iii. Waste including water management plan;
iv. Incident and emergency management
In addition, the *Contractor* shall provide detailed method statements on how he intends to carry out the *works*; this shall apply to all, and any part of the *works* as provided in the *conditions of contract.*

Temporary Services and Facilities

- All fuel storage tanks shall be bunded to 110 % of the total storage capacity. Fuel dispensing areas and workshop areas shall be provided with concrete hard standing draining to oil separators. This will also apply to other areas with pollution potential.
- Cleaning, maintenance and repairs of vehicles shall be done off site.

Protection of Rivers, Streams and Watercourses

- All rivers, streams and watercourses shall be protected from direct or indirect spills of pollutants such as garbage, sewage, cement, oils, fuels, chemicals, aggregate tailings, silt and wastewater or organic material resulting from the *Contractor's* activities. In the event of a spill prompt action shall be taken to clear polluted or affected areas.
- The *Contractor* shall not work within river flood lines, streams, water courses and wetlands without the written acceptance of the *Service Manager* as required for the execution of the work.

Refuse and Waste Control

- The management of solid waste on Site shall be strictly controlled and monitored. Only licenced waste disposal landfill sites shall be used.

- The quantities of waste generated on Site shall be minimised;Labelled recycling bins shall be used and waste separated where possible. In addition, a recycled-material collection schedule shall be established and the bins shall be collected regularly;
- Eating areas for the construction staff shall be designated and supplied with waste bins.
- No on-site burying or dumping or unauthorised burning of any waste materials, vegetation, litter, or refuse shall occur;
- Bins provided must have lids and will be sufficient to store the solid waste produced on a daily basis;
- The bins should be emptied at least once a day;
- Waste from bins may be temporarily stored on Site in a central waste area that is weatherproof and scavenger-proof and which the *Service Manager* has accepted;
- All solid waste shall be disposed of off site, at a licenced landfill site. The *Contractor* shall supply the *Service Manager* with a certificate of disposal; and Waste shall be separated into domestic waste, building/construction rubble, scrap metal, oil and grease and hazardous waste and dealt with in the following manner:

Protection of Flora

- The removal, damage and disturbance of indigenous flora are prohibited.

Protection of the Fauna

- The *Contractor* shall protect fauna living within the Site and shall ensure that hunting, snaring, poisoning, shooting, nest raiding, or egg-collecting and disturbance does not occur.
- The *Contractor* is to ensure that his employees are instructed not to feed wild animals.
- The use of pesticides is prohibited unless accepted by the *Service Manager*.
- No domestic pets or livestock are permitted on Site.

Dust

- A dust control programme shall be implemented by the *Contractor* to maintain a safe and healthy working environment.
- The *Contractor* shall act appropriately to minimise the generation of dust resulting from his works operations and activities.
- The *Contractor* shall prepare and submit a Dust Control Method Statement to the Supervisor within 14 days after the Starting Date.

5. Quality assurance requirements

- The quality requirements are as per ISO 9001:2015 and as per Eskom document 240-105658000,
- SUPPLIER CONTRACT QUALITY REQUIREMENTS SPECIFICATION.
- The *Contractor's* company quality documents are subject for verification and acceptance by Eskom.
- The supplier shall submit objective evidence of a developed QMS that complies with ISO 9001 (or the latest applicable revision). The following documented information (approved/ signed copies) shall be submitted:

✓ Quality management system manual or a (documented information) that have defines and describes the QMS and its scope
✓ Quality Policy, aligned with the supplier's strategic direction (documented information)
✓ Quality Objectives (documented information)
✓ Control of documented information (both maintain and retain documented information)
✓ Internal audit procedure (documented information)
✓ Control of nonconforming outputs (documented information)
✓ Nonconformity and Corrective action procedure (documented information)

- The QMS should drive all the supplier's business management processes to ensure that all of Eskom's requirements are fully met on a consistent basis. Supplier Quality Management: Specification Unique Identifier: 240-105658000
- The supplier shall submit a draft contract quality plan that is specific to the scope of work as described in the tender documents. The plan must address the minimum requirements as per ISO 10005.

- Where applicable; the supplier shall submit an example inspection and test plan (ITP) or quality control plan (QCP).
- The supplier shall submit documented information for Control of Externally Provided Processes, Products and Services.
- The supplier shall submit a copy of documented information for roles, responsibilities and authorities in relation to the QMS. Examples of relevant documented information are; organization charts, job descriptions, work instructions, duty statements, manuals, procedures
- The supplier shall complete and sign Form A under Category 3 (Enquiry/Contract/Quality Requirements for Supplier Quality Management Specification 240-105658000/ QM 58 and ISO 9001).

6. Procurement

6.1. People

6.1.1. Minimum requirements of people employed

Requirements as set out in section 1.2 (c) shall be adhered to. In addition, training conducted for key personnel in terms of the Skills Development Act of 1999 and that assurance that all training conducted has been done through, or has been governed by, the SETA.
A curriculum Vitae of each person shall be submitted at the time of tender and if and when personnel changes occur. This shall be noted in the compulsory organogram and updated.

Staff shall be classified as per SANS 10147 (D4) et al.

6.1.2. BBBEE and preferencing scheme

With confirmation of its B-BBEE Status by submitting an updated Verification Certificate by no later than 30 (thirty) days.

Contractor to ensures the *Service Manager* has an updated valid certified copy of BBBEE certificate or sworn affidavit during contract period. Failure to do so, could result in Eskom Vendor Management Department blocking vendor details on Eskom vendor management system which affects payment processing of invoices.

6.1.3. Supplier Development and Localisation.

Refer to attached document – SDL&L Strategy Template for Bidders

6.2. Subcontracting

6.2.1. Preferred subcontractors

No nominated subcontractors.

6.2.2. Limitations on subcontracting

The *Contractor* shall not sub-contract more than 20% of the work. This will not apply to any documentational work at/during tender stage. No supervision must be subcontracted.

6.3. Plant and Materials

6.3.1. Correction of defects

All defects identified to be corrected immediately or if not possible, the *Contractor* notifies the *Service Manager*

When correcting a defect during defect correction period the use of either new or repaired component, of a component under this agreement, shall be agreed upon between *Contractor* and *Employer*.

6.3.2. *Contractor*'s procurement of Plant and Materials

Where applicable, material, dimensional, material safety data sheets (MSDS) and pressure test certificates are required for parts and equipment supplied or for any refurbishments/reconditioning conducted by the *Contractor*.

The *Service Manager* may request to inspect Plant and Materials together with the *Contractor* on arrival before use on site and from time to time during execution. The *Contractor* keeps records of such inspections and the records be available for *Service Manager* on request. Findings from these inspections will be tracked in the monthly meetings.

6.3.3. Tests and inspections before delivery

Where applicable, material, dimensional, material safety data sheets (MSDS) and pressure test certificates are required for parts and equipment supplied or for any refurbishments/reconditioning conducted by the *Contractor*.

The *Service Manager* may request to inspect Plant and Materials together with the *Contractor* on arrival before use on site and from time to time during execution. The *Contractor* keeps records of such inspections and the records be available for *Service Manager* on request. Findings from these inspections will be tracked in the monthly meetings.

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

There will be no Plant and Materials provided as a "free issue" by the *Employer*.

7. Working on the Affected Property

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

All persons intending to perform work and/or attending meetings during this contract period comply with the following:

The *Contractor* adheres to all Life Saving Rules as specified. The *Employer* does not permit any passengers to be *transported* at the back of any Truck, light domestic vehicle or enclosed light commercial vehicle.Each person shall sign the site entrance register and this information shall also be collated by the *Contractor* for use during the scheduled meetings.

Parking is allowed in the demarcated areas only and should it be required to drive on site, then please adhere to the following:

- Maximum speed is 20km/h
- Obey all road signs.
- Damages to *Employer's* property caused by the *Contractor* will be for the *Contractor's* account.
- All *Contractor* personnel are in possession of Security clearance.
- Verification records are submitted as part of the safety file together with ID copies.
- The *Employer* reserves the right to refuse entry to all persons with criminal records.
- Original Identity document (ID) or passport is presented to Security on arrival
- No weapons are allowed on site
- No drugs allowed on site
- No explosives are allowed on site
- No firearms and ammunition allowed on site
- No photographs may be taken whilst on site
- All persons entering the *Employer's* premises undergo a breathalyser test. Any persons testing positive is not allowed entry. The *Employer* has a zero tolerance towards alcohol.

- Tool registers is verified on arrival by security personnel
- Only reverse parking is allowed on site

7.2. People restrictions, hours of work, conduct and records

ESKOM does not permit any passengers to be transported at the back of any Truck, light domestic vehicle or enclosed light commercial vehicle.

The *Contractor* keeps records of his employees working on the Affected Property, including those of his Subcontractors. The *Service Manager* shall have access to them at any time. During the execution of this contract, other *Contractors* may be performing work on the same plant and the *Contractor* must take due cognisance of this in his planning and executing the service.

Working times will be agreed upon by the *Contractor* and *Employer*.

7.3. Cooperating with and obtaining acceptance of Others

The *Contractor* co-operates with and does not delay, impede, or otherwise impair the work of Others.

7.4. Records of *Contractor*'s Equipment

All Equipment and Tools must be recorded in a form of a register and specified before they are allowed into the Affected Property. The Equipment and Tools record will serve as evidence for removal permits from the Affected Property after Completion of the service.

7.5. Equipment provided by the *Employer*

The *Employer* shall provide scaffolding; however, prior arrangements are required.

7.6. Provided by the *Employer*

7.6.1. Site services and facilities

The *Service Manager* shall make available to the *Contractor*, or their representatives, the following facilities during the contract period:

- Ablution facilities.
- First-aid in the Affected Property.

The *Contractor* shall provide everything else necessary for providing the Service.

7.6.2. Provided by the *Contractor*

The *Contractor* makes provision for all required site services and facilities.

7.7. Hook ups to existing works

Should any hook-ups be required for specific work, please consult with the *Service Manager*.

8. Tests and inspections

8.1. Description of tests and inspections

Inspections carried out by the *Contractor*, specifically those intended for the prevention of harbouring areas, must be recorded and recommendations communicated with the *Service Manager* as soon as it becomes apparent.

9. List of drawings

9.1. Drawings issued by the *Employer*

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

Drawing number	Revision	Title
N/A		

SERE SPECIFICATIONS

Title	Date or revision	Tick if publicly available
General Specifications:		
240-105658000 – Supplier Contract Quality Requirements Specification		
ISO 9001:2008 – Quality Management Systems		
OHASA (1993) – Occupational Health and Safety Act of South Africa, Act 85 of 1993		√
32-136 – Contractor Health and Safety Requirements		
240-150642762 – Generation Plant Safety Regulations		
240-62196227 – Eskom Life-saving Rules Directive 23-421		
Eskom Guideline 559-212114010 – Fire Doors – Selection, Installation, Inspection and Maintenance Guideline		
Technical specifications:		
		√
SANS 10400-T – The Application of the National Building Regulations Part T – Fire Protection		√
240-54937450 – Fire Protection & Life Safety Design Standard		
SANS 1475 -1: The production of reconditioned fire-fighting equipment Part 1: Portable and wheeled (mobile) rechargeable fire extinguishers		
SANS 1475-2: The production of reconditioned fire-fighting equipment Part 2: Fire hose reels and hydrants		
SANS 10287: Automatic sprinkler installations for fire-fighting purposes		

ANNEXURE 1 – EQUIPMENT INSPECTION SHEET

Equipment Inspection Sheet

Company Name:	:	
Equipment Inspected:	:	
Serial Number:	:	
Reference Number	:	
KKS Number	:	

Date Inspected	Item Description	Comment

ANNEXURE 2 – 6-MONTHLY INSPECTION OF FIRE DOORS

Inspection, Servicing & Testing Sheet

Company Name : _____

Competent Person : _____

SAQCC Reg. No. : _____

Qualification : _____

Level : _____

Sere Wind Farm- Fire Protection Systems Inspection, Servicing & Testing

Fire Doors

6-Monthly Inspection of Fire Doors

Item	Task Description	Completed	Notes
1	Conduct inspection of Fire Doors in accordance with the instructions.		

Deficiencies corrected during the 6-Monthly Inspection of Fire Doors.	
Deficiencies remaining after the 6-Monthly Inspection of Fire Doors.	
Specify any corrective action/follow-up.	
Cross-referenced documentation. (Reports, procedures, etc.)	

Close-out:

	Work Completed by:	Approved by:
Name	: _____	_____
Date	: _____	_____
Signature	: _____	_____

ANNEXURE 3 – 6-MONTHLY INSPECTION OF FIRE RETICULATION MAINS

Inspection, Servicing & Testing Sheet

Company Name : _____

Competent Person : _____

SAQCC Reg. No. : _____

Qualification : _____

Level : _____

Sere Wind Farm- Fire Protection Systems Inspection, Servicing & Testing

Fire Reticulation Mains

6-Monthly Inspection of Fire Reticulation Mains

Item	Task Description	Completed	Notes
1	Conduct inspection of Fire Reticulation Mains in accordance with the instructions.		

Deficiencies corrected during the 6-Monthly Inspection of Fire Reticulation Mains.	
Deficiencies remaining after the 6-Monthly Inspection of Fire Reticulation Mains.	
Specify any corrective action/follow-up.	
Cross-referenced documentation. (Reports, procedures, etc.)	

Close-out:

	Work Completed by:	Approved by:
Name	: _____	_____
Date	: _____	_____
Signature	: _____	_____

ANNEXURE 4 – YEARLY maintenance OF FIRE EXTINGUISHERS

Inspection, Servicing & Testing Sheet

Company Name : _____

Competent Person : _____

SAQCC Reg. No. : _____

Qualification : _____

Level : _____

Sere Wind Farm- Fire Protection Systems Inspection, Servicing & Testing

Fire Extinguishers

Yearly Maintenance

Item	Task Description	Completed	Notes
1	All extinguishers shall be properly cleaned and free of any dirt, grease or foreign material before inspection and service.		
2	Extinguishers shall be carefully inspected for any rust, corrosion, dents, pitting or any other damage or wear.		
3	Inspection for any damaged, missing or substituted parts shall be carried out.		
4	Check for test and maintenance/service dates and determine if the extinguisher is due for hydrostatic pressure testing.		
5	Check that the operating instructions on the extinguishers are readable and correct.		
6	Inspect the pressure gauge indicator to determine if it is within operable range, if the correct gauge is installed and that there is no evidence of leakage.		
7	Weigh each extinguisher to ensure adequate extinguishing agent is present. Top up or recharge extinguishers as required.		
8	Remove pull pin / ring pin to check for free movement. Replace if bent or removal appears to be difficult and replace tamper seal.		
9	Remove the discharge hoses and nozzles for inspection. Ensure nozzles and hoses are fit for use, unobstructed, not cracked or worn. Clean and renew where necessary.		
10	Inspection and check lever / handle for smooth operation and movement		

	and also inspect for damage. Clean, rectify and renew where necessary.		
11	Renew all seals, diaphragms and washers as required during the service.		
12	Complete and attach maintenance tags / labels to extinguishers and record all information on data sheets.		
13	Submit service certificates.		
14	Ensure that any extinguisher that is removed from its location for examination and hydrostatic testing, is replaced with another temporary extinguisher that conforms to the following requirements: • Extinguishers shall be uniquely identified, labelled and kept on a register which shall be submitted to the employer. • Safety seals and tampering devices/indicators are not broken or missing. • Extinguishing agent quantity is adequate, as determined by weighing or lifting. • Pressure gauge or indicator is within the operable range or position (green). • No obvious physical damage, corrosion, leakage or clogged nozzle exists. • Hose and nozzle are in a good condition. • Temporary extinguishers shall have the necessary certification and it shall be produced on delivery of temporary extinguishers.		

Deficiencies corrected during the Yearly Maintenance .	
Deficiencies remaining after the Yearly Maintenance.	
Specify any corrective action/follow-up.	

Cross-referenced documentation. (Reports, procedures, etc.)	
Close-out:	

	Work Completed by:	Approved by:
Name	: _____	_____
Date	: _____	_____
Signature	: _____	_____

ANNEXURE 5 – YEARLY maintenance OF HYDRANTS

Inspection, Servicing & Testing Sheet

Company Name : _____

Competent Person : _____

SAQCC Reg. No. : _____

Qualification : _____

Level : _____

Sere Wind Farm- Fire Protection Systems Inspection, Servicing & Testing

Fire Hydrants

Yearly Maintenance

Item	Task Description	Completed	Notes
1	Visually inspect the hydrant valve, standpipe and respective isolating valves (where applicable) for any signs of leakage or damage.		
2	Check that all hydrant valves are accessible, hand-wheels are securely fitted and that blanking caps are in good condition and in place (where applicable).		
3	Check and inspect all seals and washers. Replace as necessary.		
4	Inspect hydrant standpipes for signs of corrosion, damage or leaks.		
5	Check that all hydrant cabinets are clearly marked and in good condition, accessible and contains only the necessary equipment.		
6	Hydrant Hoses - Check all branch pipes, nozzles and hose couplings are in good condition, compatible with the hydrant valves and properly stowed.		
7	Hydrant Hoses - Unwound hydrant hose and inspect the entire hose for any cracks, cuts, leaks, wear and any other damage.		
8	Hydrant Hoses - If any anomalies are found on a hose, a hydrostatic test shall be conducted on the hose in accordance with the following instructions: • Connect the hose to the testing device. • Ensure that the hydrostatic test is performed in a safe area away from electrical and mechanical equipment.		

	• Ensure that the hose is properly restrained to prevent whipping in the event of failure. Care must be taken to minimise potential for personal injury during application of pressure and inspection of the hose. • Fill the hose completely with water by venting air from the nozzle. • Mark the hose at each coupling to determine if the hose slips from the coupling during the test. • Close the nozzle. • Slowly raise the pressure in the hose to the test pressure of 16 bar (gauge). Maintain the service pressure for at least 5 minutes. • Inspect the entire length of hose and couplings for leakage or signs of degradation. • Note and record any leakage. • Slowly remove pressure from the hose. • Inspect marks on the couplings to determine if the coupling has moved during the test. • Disconnect the hose from the testing device. • Drain and dry the hose. • Record results, including date of testing, and return the hose to storage.		
9	Foam Concentrate and Loose Equipment: • Check that the equipment inside the cabinet is in accordance with the cabinet contents list. • Check that equipment items are compatible and in good condition. • Check that foam concentrate containers are in good condition, seals are intact and the labels are legible. • Check that foam concentrate levels are correct.		

	• Check signage for legibility.		
10	Check and ensure all components are free of damage and defects.		
11	A maintenance label must be fitted on completion of the annual service.		

Deficiencies corrected during the Yearly Maintenance.	
Deficiencies remaining after the Yearly Maintenance.	
Specify any corrective action/follow-up.	
Cross-referenced documentation. (Reports, procedures, etc.)	

Close-out:

	Work Completed by:	Approved by:
Name	: _____	_____
Date	: _____	_____
Signature	: _____	_____

ANNEXURE 6 – YEARLY maintenance OF HOSE REELS

Inspection, Servicing & Testing Sheet

Company Name : _____

Competent Person : _____

SAQCC Reg. No. : _____

Qualification : _____

Level : _____

Sere Wind Farm- Fire Protection Systems Inspection, Servicing & Testing

Hose Reels

Yearly Maintenance

Item	Task Description	Completed	Notes
1	Check that the locations of hose reels are marked up correctly on the location plan/register.		
2	Check that the hose reel is readily accessible with no obstacles restricting its access.		
3	Check that location signs are correctly located and visible.		
4	Check that operating instructions are readable and correct.		
5	Check for any damage or corrosion of components that could adversely affect the operation of the reel.		
6	Check that the hose reel is securely mounted and stable. Inspect the drum and discs for any signs of corrosion and damage. Make sure the hose reel drum rotates freely in both directions.		
7	Check all hoses for kinking, excessive damage or wear, or collapse.		
8	If any anomalies are found on a hose, a hydrostatic test shall be conducted on the hose in accordance with the following instructions: • Connect the hose to the testing device. • Ensure that the hydrostatic test is performed in a safe area away from electrical and mechanical equipment. • Ensure that the hose is properly restrained to prevent whipping in the event of failure. Care must be taken to minimise potential for		

	personal injury during application of pressure and inspection of the hose. • Fill the hose completely with water by venting air from the nozzle. • Close the nozzle. • Slowly raise the pressure in the hose to the test pressure of 16 bar (gauge). Maintain the service pressure for at least 5 minutes. • Inspect the entire length of hose and couplings for leakage or signs of degradation. • Note and record any leakage. • Slowly remove pressure from the hose. • Disconnect the hose from the testing device. • Drain and dry the hose. • Record results, including date of testing, and return the hose to storage.		
9	Make sure nozzles are in place and inspect for any blockage, cracks, defects and damage. Ensure nozzle is in a closed position.		
10	Check that no unauthorized connections or tapping have been made to the hose reel water supply piping visible at the hose reel.		
11	A maintenance label must be fitted to the hose reel on completion of the annual service.		

Deficiencies corrected during the Yearly Maintenance.	
Deficiencies remaining after the Yearly Maintenance .	
Specify any corrective action/follow-up.	
Cross-referenced documentation. (Reports, procedures, etc.)	

Close-out:		
	Work Completed by:	Approved by:
Name	: _____	_____
Date	: _____	_____
Signature	: _____	_____

ANNEXURE 7 – YEARLY WATER SUPPLY PROVING TEST

Inspection, Servicing & Testing Sheet

Company Name : _____

Competent Person : _____

SAQCC Reg. No. : _____

Qualification : _____

Level : _____

Sere Wind Farm- Fire Protection Systems Inspection, Servicing & Testing

Fire Hydrants

Yearly Water Supply Proving Test

Item	Task Description	Completed	Notes
1	Perform yearly water supply proving test on the most remote hydrants.		
2	The water supply proving test shall be conducted using an approved calibrated device and the parameters that shall be recorded include the pressure and flow at the discharge of the hydrant.		
3	The pressure and flow of the hydrant in the powerhouse shall be recorded against the corresponding dam level indication.		
4	The minimum flow and pressure of the hydrant at the most remote hydraulic point is 1200 L/m and 350 kPa.		
5	Ensure safe and effective drainage for the water to be discharged from the supply. A hydrant hose can be routed to drain and secured for this purpose.		
6	Open the hydrant valve to establish flow.		
7	Ensure that the flow is under pressure.		
8	Measure and record hydrant flow and pressure with approved calibrated test device.		
9	Restore the hydrant station to normal condition.		
10	Certification, indicating the flow and pressure of the hydrant must be supplied on completion of the test.		

Deficiencies corrected during the Yearly Water Supply Proving Test.	

Deficiencies remaining after the Yearly Water Supply Proving Test.	
Specify any corrective action/follow-up.	
Cross-referenced documentation. (Reports, procedures, etc.)	
Close-out:	

	Work Completed by:	Approved by:
Name		
:	_____	_____
Date		
:	_____	_____
Signature		
:	_____	_____

ANNEXURE 8 – YEARY SERVICING OF FIRE PUMP, DRIVER & FIELD PERFORMANCE TESTING OF FIRE PUMPS

Inspection, Servicing & Testing Sheet

Company Name : _____

Competent Person : _____

SAQCC Reg. No. : _____

Qualification : _____

Level : _____

Sere Wind Farm- Fire Protection Systems Inspection, Servicing & Testing

Fire Pumps and Drivers

Yearly Servicing & Field Performance Test

Item	Task Description	Completed	Notes
1	Conduct servicing and testing in accordance with approved instructions.		
2	Monitor and record the reservoir level prior to the conducting the test.		
3	Check the pumps control panel for any abnormal conditions.		
4	Manually or automatically start the pump. Automatic starting is initiated by opening a hydrant to establish flow through the line. The flow switch should activate the pump to start.		
5	Record flows and pressures.		
6	Monitor and record the reservoir level.		
7	Record any anomalies.		
8	Return the pump to its normal standby line-up on completion of the test.		

Deficiencies corrected during the Yearly Servicing and Performance Test.	
Deficiencies remaining after the Yearly Servicing and Performance Test.	
Specify any corrective action/follow-up.	
Cross-referenced documentation. (Reports, procedures, etc.)	

Close-out:		
	Work Completed by:	Approved by:
Name	: _____	_____
Date	: _____	_____
Signature	: _____	_____

ANNEXURE 9 – 5-YEARY EXTENDED MAINTENANCE, OVERHAUL AND HYDROSTATIC PRESSURE TESTING OF EXTINGUISHERS

Inspection, Servicing & Testing Sheet

Company Name : _____

Competent Person : _____

SAQCC Reg. No. : _____

Qualification : _____

Level : _____

Sere Wind Farm- Fire Protection Systems Inspection, Servicing & Testing

Fire Extinguishers

5-Yearly Extended Maintenance, Overhaul and Hydrostatic Pressure Testing

Item	Task Description	Completed	Notes
1	Fire extinguishers shall be subjected to a 5-yearly extended maintenance, overhaul and hydrostatic pressure test.		
2	Complete and attach service tags / labels to extinguishers and record all information on data sheets.		
3	Submit pressure test certificates.		
4	Ensure that any extinguisher that is removed from its location for hydrostatic testing, is replaced with another temporary extinguisher that conforms to the following requirements: • Extinguishers shall be uniquely identified, labelled and kept on a register which shall be submitted to the employer. • Safety seals and tampering devices/indicators are not broken or missing. • Extinguishing agent quantity is adequate, as determined by weighing or lifting. • Pressure gauge or indicator is within the operable range or position (green). • No obvious physical damage, corrosion, leakage or clogged nozzle exists. • Hose and nozzle are in a good condition.		

	• Temporary extinguishers shall have the necessary certification and it shall be produced on delivery of temporary extinguishers.		

Deficiencies corrected during the 5-Yearly Extended Maintenance, Overhaul and Hydrostatic Pressure Testing.	
Deficiencies remaining after the 5-Yearly Extended Maintenance, Overhaul and Hydrostatic Pressure Testing.	
Specify any corrective action/follow-up.	
Cross-referenced documentation. (Reports, procedures, etc.)	

Close-out:

	Work Completed by:	Approved by:
Name	: _____	_____
Date	: _____	_____
Signature	: _____	_____

ANNEXURE 10 – 5-YEARY MAINTENANCE AND HYDROSTATIC PRESSURE TESTING OF HYDRANT HOSES

Inspection, Servicing & Testing Sheet

Company Name : _____

Competent Person : _____

SAQCC Reg. No. : _____

Qualification : _____

Level : _____

Sere Wind Farm- Fire Protection Systems Inspection, Servicing & Testing

Hydrant Hoses

5-Yearly Maintenance and Hydrostatic Pressure Testing

Item	Task Description	Completed	Notes
1	Connect the hose to the testing device.		
2	Ensure that the hydrostatic test is performed in a safe area away from electrical and mechanical equipment.		
3	Ensure that the hose is properly restrained to prevent whipping in the event of failure. Care must be taken to minimise potential for personal injury during application of pressure and inspection of the hose.		
4	Fill the hose completely with water by venting air from the nozzle.		
5	Mark the hose at each coupling to determine if the hose slips from the coupling during the test.		
6	Close the nozzle.		
7	Slowly raise the pressure in the hose to the test pressure of 16 bar (gauge). Maintain the service pressure for at least 5 minutes.		
8	Inspect the entire length of hose and couplings for leakage or signs of degradation.		
9	Note and record any leakage.		
10	Slowly remove pressure from the hose.		
11	Inspect marks on the couplings to determine if the coupling has moved during the test.		
12	Disconnect the hose from the testing device.		
13	Drain and dry the hose.		
14	Record results, including date of testing, and return the hose to		

	storage.		
15	Submit certification.		

Deficiencies corrected during the 5-Yearly Maintenance and Hydrostatic Pressure Testing.	
Deficiencies remaining after the 5-Yearly Maintenance and Hydrostatic Pressure Testing.	
Specify any corrective action/follow-up.	
Cross-referenced documentation. (Reports, procedures, etc.)	

Close-out:

	Work Completed by:	Approved by:
Name	: _____	_____
Date	: _____	_____
Signature	: _____	_____

ANNEXURE 11 – 5-YEARY MAINTENANCE AND HYDROSTATIC PRESSURE TESTING OF HOSE REELS

Inspection, Servicing & Testing Sheet

Company Name : _____

Competent Person : _____

SAQCC Reg. No. : _____

Qualification : _____

Level : _____

Sere Wind Farm- Fire Protection Systems Inspection, Servicing & Testing

Hose Reels

5-Yearly Maintenance and Hydrostatic Pressure Testing

Item	Task Description	Completed	Notes
1	Connect the hose to the testing device.		
2	Ensure that the hydrostatic test is performed in a safe area away from electrical and mechanical equipment.		
3	Ensure that the hose is properly restrained to prevent whipping in the event of failure. Care must be taken to minimise potential for personal injury during application of pressure and inspection of the hose.		
4	Fill the hose completely with water by venting air from the nozzle.		
5	Close the nozzle.		
6	Slowly raise the pressure in the hose to the test pressure of 16 bar (gauge). Maintain the service pressure for at least 5 minutes.		
7	Inspect the entire length of hose for leakage or signs of degradation.		
8	Note and record any leakage.		
9	Slowly remove pressure from the hose.		
10	Disconnect the hose from the testing device.		
11	Drain and dry the hose.		
12	Record results, including date of testing, and return the hose to storage.		
13	Submit certification.		

Deficiencies corrected during the 5-Yearly Maintenance and Hydrostatic Pressure Testing.	

Deficiencies remaining after the 5-Yearly Maintenance and Hydrostatic Pressure Testing.	
Specify any corrective action/follow-up.	
Cross-referenced documentation. (Reports, procedures, etc.)	
Close-out:	

	Work Completed by:	Approved by:
Name	: _____	_____
Date	: _____	_____
Signature	: _____	_____

ANNEXURE 12 – 5-YEARY OVERHAUL OF DELUGE FLOW CONTROL VALVES

Inspection, Servicing & Testing Sheet

Company Name : _____

Competent Person : _____

SAQCC Reg. No. : _____

Qualification : _____

Level : _____

Sere Wind Farm- Fire Protection Systems
Inspection, Servicing & Testing

Deluge Flow Control Valves

5-Yearly Valve Overhaul

Item	Task Description	Completed	Notes
1	The deluge flow control valves shall be subjected to a 5-yearly internal inspection and overhaul.		
2	Disassemble valve and remove components.		
3	Clean and inspect components.		
4	Renew valve diaphragm.		
5	Renew valve seat and seals.		
6	Renew any damaged components.		
7	Renew gaskets.		
8	Re-assemble valve.		
9	Perform functional testing.		
10	Note and record any leakage.		
11	A service label must be fitted on completion of the 5-yearly service.		
12	Submit certification.		

Deficiencies corrected during the 5-Yearly Valve Overhaul.	
Deficiencies remaining after the 5-Yearly Valve Overhaul.	
Specify any corrective action/follow-up.	

Cross-referenced documentation. (Reports, procedures, etc.)	
Close-out:	

	Work Completed by:	Approved by:
Name		
:	_____	_____
Date		
:	_____	_____
Signature		
:	_____	_____

ANNEXURE 13 – 5-YEARY OVERHAUL OF FIRE PUMPS, DRIVERS AND SHOP&FIELD PERFORMANCE TESTS

Inspection, Servicing & Testing Sheet

Company Name : _____

Competent Person : _____

SAQCC Reg. No. : _____

Qualification : _____

Level : _____

Sere Wind Farm- Fire Protection Systems Inspection, Servicing & Testing

Fire Pumps and Drivers

5-Yearly Fire Pump & Driver Overhaul, Shop & Field Performance Tests

Item	Task Description	Completed	Notes
1	The fire pumps and drivers shall be subjected to a 5-yearly overhaul and the pumps are subjected to shop and field performance tests.		
2	Submit certification.		

Deficiencies corrected during the 5-Yearly Overhaul and tests.	
Deficiencies remaining after the 5-Yearly Overhaul and tests.	
Specify any corrective action/follow-up.	
Cross-referenced documentation. (Reports, procedures, etc.)	

Close-out:

	Work Completed by:	Approved by:
Name	: _____	_____
Date	: _____	_____
Signature	: _____	_____