NEC3 Term Service Contract (TSC3)

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

and
(Reg No. _____)

for CORROSION PROTECTION REPAIRS AT DRAKENSBERG PUMPED STORAGE SHEME

Contents:		**No of pages**
Part C1	**Agreements & Contract Data**	**[●]**
Part C2	**Pricing Data**	**[●]**
Part C3	**Scope of Work**	**[●]**

CONTRACT No. [ ]

PART C1: AGREEMENTS & CONTRACT DATA

Contents:

C1.1 Form of Offer & Acceptance

Offer

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

CORROSION PROTECTION REPAIRS AT DRAKENSBERG PUMPED STORAGE SHEME

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.

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

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

Signature(s) .....

Name(s) .....

Capacity .....

For the tenderer:

.....
(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		James L' eTang
Capacity		Senior Manager Plant: Peaking Power Stations
On behalf of		Eskom Holdings SOC Ltd c/o 15 Pasita Street Rosenpark 7530
Name & signature of witness		…… Marna Bester Procurement Manager
Date		

C1.2 TSC3 Contract Data

Part one - Data provided by the *Employer*

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

Clause	Statement	Data
1	**General**	
	The *conditions of contract* are the core clauses and the clauses for main Option:	
		A: Priced Contract with Price List
	dispute resolution Option	**W1: Dispute resolution procedure**
	and secondary Options	
		X1: Price Adjustment for Inflation
		X2 Changes in the law
		X17: Low service damages
		X18: Limitation of liability
		X19: Task Order
		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**
	Represented by:	**James L'Etang**
	Tel No.	**+27 11 800 3559**
10.1	The *Service Manager* is (name):	**TBC**
	Address	**Drakensberg Pumped Storage Scheme Off R74 between Harrismith and Bergville Jagersrust (3354)**
11.2(2)	The Affected Property is	**Drakensberg Pumped Storage Scheme**
11.2(13)	The *service* is	**The Provision of Corrosion Protection Repairs**
11.2(14)	The following matters will be included in the Risk Register	• **Funding constraints (unavailability of funds for the contract duration)** • **Failure to comply with the criminal**

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

		screening process requirements
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	• **Two (2) calendar days** • **Immediately for health and safety related 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	**Two (2) weeks of the Contract Date**
3	**Time**	
30.1	The *starting date* is.	**TBC**
30.1	The *service period* is	**Five (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**
5	**Payment**	
50.1	The *assessment interval* is	**between the 25th and 27th 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	**Sixty (60) days on receipt of valid tax invoice**
51.4	The *interest rate* is	**the publicly quoted prime rate of interest (calculated on a 365 day year) charged by from time to time by the Standard Bank of South Africa Limited (as certified, in the event of any dispute, by any manager of such bank, whose appointment it shall not be necessary to prove) for amounts due in Rands and**
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. Standing time resulting from outage dates shifting without prior notice**

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 Price Adjustment for Inflation

20.4	The *Contractor* prepares forecasts of the total Defined Cost for the whole of the *service* at intervals no longer than	**Not Applicable**

11 Data for Option W1

W1.1	The *Adjudicator*	**the person selected from the ICE-SA Division (or its successor body) of the South African Institution of Civil Engineering Panel of Adjudicators by the Party intending to refer a dispute to him. (see www.ice-sa.org.za). If the Parties do not agree on an Adjudicator the Adjudicator will be appointed by the Arbitration Foundation of Southern Africa (AFSA).**
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	**KwaZulu Natal, 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 Close**
	The proportions used to calculate the Price Adjustment Factor are:	**proportion** / **linked to index for** **0.85** / **[CPI]** **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	Listed below

Low Service Damage Description	**Value Of Low Service Damages**	**Limit Of Low Service Damage**
Quality documentation submission: Within 2 (two) weeks of contract start date. Also, at intervals after contract award as required by the *Employer*'s Safety Department.	1.5% of Task order value per week	Limited to 10% of task order value
QCP's: Three (3) days after receipt of task order	1.5% of Task order value per week	Limited to 10% of task order value
Submission Delays: Delays in submission of documents as detailed in this agreement	1.5% of Task order value per week	Limited to 10% of task order value
Poor workmanship: Rework due to poor workmanship	3% of Task order value per week	Limited to 10% of task order value
No response of NCR within 3 days	1.5% of Task order value per week	Limited to 10% of task order value
Delay damages: Delays in completing the Task as per Task Order programme	3% of Task order value per week	Limited to 10% of task order value
Security Criminal Compliance Failure to comply with the criminal screening process requirements.	*Contractor* will be denied access to the Affected Property and cost deduction of 2% of Task order value per week.	Limited to 10% of the Task Order value, termination thereafter

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	**Twelve (12) months after the end of the *service period*.**
X19	**Task Order**	
X19.5	The *Contractor* submits a Task Order programme to the *Service Manager* within	**Three (3) 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 "Principal Contractor" (as defined and provided for under the Construction Regulations 2014 (promulgated under the Occupational Health & Safety Act 85 of 1993) ("the Construction Regulations") for the Affected Property;
- warrants that the total of the Prices as at the Contract Date includes a sufficient amount for proper compliance with the Construction Regulations, all applicable health & safety laws and regulations and the health and safety rules, guidelines and procedures provided for in this contract and generally for the proper maintenance of health & safety in and about the execution of the *service*; and
- undertakes, in and about the execution of the *service*, to comply with the Construction Regulations and with all applicable health & safety laws and regulations and rules, guidelines and procedures otherwise provided for under this contract and ensures that his Subcontractors, employees and others under the *Contractor's* direction and control, likewise observe and comply with the foregoing.

Z6.2 The *Contractor*, in and about the execution of the *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.

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

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

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

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

Z8 Notifying compensation events

Z8.1 Delete the last paragraph of core clause 61.3 and replace with:

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

Z9 *Employer's* limitation of liability

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

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

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

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

Z11 Ethics

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

Affected Party means, as the context requires, any party, irrespective of whether it is the *Contractor* or a third party, such party's employees, agents, or 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 Nuclear Liability

Z13.1 The *Employer* is the operator of the Koeberg Nuclear Power Station (KNPS), a nuclear installation, as designated by the National Nuclear Regulator of the Republic of South Africa, and is the holder of a nuclear licence in respect of the KNPS.

Z13.2 The *Employer* is solely responsible for and indemnifies the *Contractor* or any other person against any and all liabilities which the *Contractor* or any person may incur arising out of or resulting from nuclear damage, as defined in Act 47 of 1999, save to the extent that any liabilities are incurred due to the unlawful intent of the *Contractor* or any other person or the presence of the *Contractor* or that person or any property of the *Contractor* or such person at or in the KNPS or on the KNPS site, without the permission of the *Employer* or of a person acting on behalf of the *Employer*.

Z13.3 Subject to clause Z13.4 below, the *Employer* waives all rights of recourse, arising from the aforesaid, save to the extent that any claims arise or liability is incurred due or attributable to the unlawful intent of the *Contractor* or any other person, or the presence of the *Contractor* or that person or any property of the *Contractor* or such person at or in the KNPS or on the KNPS site, without the permission of the *Employer* or of a person acting on behalf of the *Employer*.

Z13.4 The *Employer* does not waive its rights provided for in section 30 (7) of Act 47 of 1999, or any replacement section dealing with the same subject matter.

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

Z14 Asbestos

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

AAIA means approved asbestos inspection authority.

ACM means asbestos containing materials.

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

required in order to control asbestos exposure to prevent exceeding the OEL.

Ambient Air means breathable air in area of work with specific reference to breathing zone, which is defined to be a virtual area within a radius of approximately 30cm from the nose inlet.

Compliance Monitoring means compliance sampling used to assess whether or not the personal exposure of workers to regulated asbestos fibres is in compliance with the Standard's requirements for safe processing, handling, storing, disposal and phase-out of asbestos and asbestos containing material, equipment and articles.

OEL means occupational exposure limit.

Parallel Measurements means measurements performed in parallel, yet separately, to existing measurements to verify validity of results.

Safe Levels means airborne asbestos exposure levels conforming to the Standard's requirements for safe processing, handling, storing, disposal and phase-out of asbestos and asbestos containing material, equipment and articles.

Standard means the *Employer*'s Asbestos Standard 32-303: Requirements for Safe Processing, Handling, Storing, Disposal and Phase-out of Asbestos and Asbestos Containing Material, Equipment and Articles.

SANAS means the South African National Accreditation System.

TWA means the average exposure, within a given workplace, to airborne asbestos fibres, 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*

Clause	Statement	Data
10.1	The *Contractor* is (Name): Address Tel No. Fax No.	
11.2(8)	The *direct fee percentage* is The *subcontracted fee percentage* is	**%** **%**
11.2(14)	The following matters will be included in the Risk Register	
11.2(15)	The Service Information for the *Contractor*'s plan is in:	
21.1	The plan identified in the Contract Data is contained in:	
24.1	The key people are: 1 Name: Job: Responsibilities: Qualifications: Experience: 2 Name: Job Responsibilities: Qualifications: Experience:	**CV's (and further key person's data including CVs) are in .**
E	**Cost reimbursable contract**	
11.2(12)	The *price list* is in	

Part 2: Pricing Data
TSC3 Option E

Document reference	Title	No of pages
C2.1	Pricing assumptions: Option E	1
C2.2	The *price list*	**[●]**

C2.1 Pricing assumptions: Option E

How work is priced and assessed for payment

Clause 11 in the core and Option E clauses of the NEC3 Term Service Contract (TSC3) state:

Identified and defined terms	11 11.2	(12) The Price List is the *price list* unless later changed in accordance with this contract. (18) The Price for Services Provided to Date is the Defined Cost which the *Contractor* has paid plus the Fee. (24) The Prices are the amounts stated in the Price column of the Price List. If no Price List is included, the Prices are the Defined Cost plus the Fee.

Payments are made at Defined Cost plus Fee (See core clauses 11.2(5), 11.2(6) and 11.2(8)). As this Option is used when the definition of work is likely to be inadequate for pricing purposes, it may not be practical to establish a Price List.

Function of the Price List

In this Option the Price List (if any) is used only as a means of forecasting the final outcome.

Preparing the *price list* (if any)

It will be assumed that the tendering contractor has read Pages 14 and 15 of the TSC3 Guidance Notes before preparing the *price list*. Items in the *price list* may have been inserted by the *Employer* and the tendering contractor should insert any additional items which he considers necessary.

Format of the *price list*

Entries in the first four columns in the *price list* in section C2.2 are made either by the *Employer* or the tendering contractor. For Option E the Price List is used only for forecasting Defined Cost.

If the *price list* includes 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 *price list* includes 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 *price list* includes 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.

Areas	Description	Estimate Unit	UOM	Rate	Total Price
Headrace (Stop Logs) gate system	2 Stop logs, pipe work in head race rooms and hand rails	200 m²			
Emergency gate system	Hydraulic cylinder, pipe work	200m²			
Spherical valve (S/V) body	Main valve, pipe work and body drain valve	80m²			
Spiral Casing, including stay vanes and pipework	Spiral casing, pipe work and stay vanes	600m²			
Guide Vanes	20 guide vanes per unit therefore 80 guide vanes	20m²			
Stay ring	stay ring structure	20m²			
Turbine Head Cover (Top Cover) incl operating ring and link arms- below and above	Turbine Top cover unit 1 , unit 2, unit 3 and unit 4	100m²			
Turbine runner blades (possible cavitation protection)	Turbine Top cover unit 1 , unit 2, unit 3 and unit 4	20m²			
Turbine runner cone	Turbine Top cover unit 1 , unit 2, unit 3 and unit 4	20m²			
Draft tube, including pipework	All 4 units Draft Tub and Pipework	200m²			
Thrust Bearing cooler waterboxes	Thrust Guide Bearing Coolers water boxes for all 4 Units (16 water boxes)	200m²			
Liquid Starter Internal and	all 4 units liquid starter	300m²			

External	tank internal and external				
P/T guide bearing cooler waterboxes	P/T guide bearing cooler waterboxes, for 4 units (16 water boxes)	20m²			
Pressure vessels	Unit 1,unit 2, unit 3 and unit 4 pressure vessels , Spherical Valve Air / Oil Receiver, Spherical Valve Make-Up Air Receiver, Governor Air / Oil Receiver, Spherical Valve Buffer Air Receiver, Blowdown Air Receiver, Governor Compressor, Governor Compressor Make-Up Air Receiver Make-Up Air Receiver, Unit Brake Air Receiver	500m²			
CW, Air and Oil Valves in general	unit 1 , unit2, unit3 and unit 4 all Cw, air and oil Valves	200m²			
CW, Air and Oil Piping in general	unit 1 , unit2, unit3 and unit 4 Cw, air and oil pipe work	200m²			
Spiral Casing and Draft Tube Mandoors, inspection holes in general	Unit 1, unit2 , unit3 and unit4 Manhole(Spiral Casing , S/V extension door, Penstock and Pressure	600m²			

	Vessels), Draft tube Gates				
GV Middle bush top O-ring retaining plate	Unit 1, unit 2 , unit 3 and Unit 4 Middle Bush O-ring Retaining Plate	20m²			
Tailrace gate system	Unit 1,Unit 2 ,Unit3 and Unit 4 Tailrace gate , Wheels , guides and Wheel Pin	200m²			
Shaft seal components including Base Plate	Unit 1 , unit 2 unit3 and unit 4 Shaft seal Housing , Pipework , blots and base plate	20m²			
P/T guide bearing and Thrust Bearing Inner Sump	Unit 1, Unit 2, Unit 3 and Unit 4 P/T guide bearing and Thrust Bearing Inner Sump	80m²			
P/T guide bearing sump	Unit 1, Unit 2, Unit 3 and Unit 4 P/T guide bearing bottom Sump	100m²			
All Pumps including Drainage Pumps	Unit 1, Unit 2, Unit 3 , Unit 4 ,Common services , transformer and drainage gallery pumps	100m²			
Steel lined section of the Penstock	Unit 1, Unit 2, Unit 3 and Unit 4 Steel lined section of the Penstock	1200m²			
Governor sump	Unit 1, Unit 2, Unit 3 and Unit 4 Governor sumps	200m²			
S/V sump	Unit 1, Unit 2, Unit 3 and Unit 4 S/V Sump	200m²			
Main cw	Unit 1, Unit 2,	100m²			

stariner	Unit 3 and Unit 4				
Fire Pipes	Station fire pipe work	200m²			
Hydraulic bulk tank and Lubrication tanks	clean and dirty tanks (4 tanks)	500m²			
Upper guide bearing sump	Unit 1, Unit 2, Unit 3 and Unit 4 Upper guide bearing Sump	100m²			
Lift shaft	Hand Rails	900m²			
Station hand rails	Unit 1, Unit 2, Unit 3 and Unit 4 , S/V , Unit side, Common services	900m²			

Description		UOM	Rate	Total quantity	Total Price
1. Site Establishment		Sum		1	
2	Site PPE	Per Man		17	
3	Safety Harnesses	Per Man		17	
4	WAH Training	Per Man		17	
5	Medicals	Per Man		17	
6	Crim Checks	Per Man		17	
7	Site Offices	Per day		118	
8	Containers	Per day		118	
9	Site LDV	Per shift		118	
10	Site Minibus to transport Personnel	Per shift		118	
11	Tools and Equipment	Per shift		118	
12	HP Machines	Per shift		118	
13	Safety Officer	Per shift		118	
14	Site Manager	Per shift		118	
15	Site Supervisor	Per shift		118	
16	Indirect Field labour accommodation	Per day		118	
17	Living Out Allowance (LOA)	Per day		118	

18	Direct Filed Labour accommodation	Per day		118	
19	LOA	Per day		118	
20			Site De-Establishment		

PART 3: SCOPE OF WORK

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

C3.1: EMPLOYER'S SERVICE INFORMATION

Contents

1 Description of the *service*

The *Works* make provision for the corrosion protection and repairing of corroded exterior sections and other sections of Units and Vessels at the Power Station.

1.1. Background
Drakensberg Power Station plant consists of 4 units with a generating capacity of 250MW per unit. The Drakensberg Pumped Storage Scheme was designed to generate electricity for 10 hours with all 4 units per day, pump water back to the top dam for 9 hours with all 4 units per day. A pumped storage scheme generates electricity during peak hours, which is everyday when the demand of electricity rises. During the off-peak periods Drakensberg will use its reversible turbines to pump the water back to the upper reservoir, readying the system for peak periods. The station uses the piping to transfer water from the headrace to the tailrace. The Station has metal vessels and sumps used to carry various liquids. The Turbine and the head cover of the turbine is made from metal.

1.2. Employer's Objective
The *Employer* objective is to repair and replace the coatings on sections where the corrosion protection is beginning to fail as per the Price list above.

1.3. Employer Philosophy
1.3.1. Engineering Philosophy
The selection of materials of the structures and the corrosion protection application is performed in accordance with latest accepted standards. In all cases the degree of cleanliness for coating systems shall be Sa 2.5 in accordance with ISO 8501/1. In cases that are considered critical and strategic, coating shall only be performed by applicators with a rating of 3 as defined in 4.3.2 (c).

1.3.2. Maintenance Philosophy
Routine inspections on corrosion protection are carried out. Problematic areas are noted, and if possible, these are treated or repaired at the next available opportunity. More extensive repairs are planned for the 3, 6 yearly and 15 yearly Major outages.

1.3.3. Design Considerations
Steel components shall be designed to be accessible for the purposes of applying, inspecting and maintaining the protective coating system.
The guidelines to ensure accessibility and suitability for painting shall be drawn from ISO 12944-3: 'Paint and varnishes – Corrosion protection of steel structures by protective paint systems' Part 3 – 'Design considerations'.

1.3.4. Coating Materials
The solvents used shall be those recommended and manufactured by the coating manufacturer. Where the recommended 'solvent' and 'clean-up thinners' for a material differ, the 'clean-up' solvent must not be added to the coating for dilution purposes.
Excessive dilution of paints is not permitted. Solvent additions for application purposes shall be in strict accordance with the coating manufacturer's Product Data Sheet.
The maximum capacity of containers shall be 25 litres. Where required, the coating containers shall be of a size large enough to allow mixing in the containers themselves.
The coating manufacturer's recommended shelf life and other storage requirements shall be met.
The colours of the paints to be used shall be as specified by the Engineer. All paints and coatings shall be brought to site in new unopened containers. All containers shall be clearly marked with the manufacturer's material batch numbers and other relevant information.
All materials (coatings/linings) shall be regularly tested at the manufacturers' factories and bench marked against international versions. The Contractor must make sure that regular quality control tests are carried out to ensure that good quality of the materials is maintained. The results of these tests are to be submitted to the Eskom Engineer.
The following properties shall be closely monitored:

- Quality of raw materials
- Analytical formulation of finished products
- Percentage solids by volume
- Specific gravity

- Colour and gloss
- Drying time
- Viscosity

The Contractor shall ensure that the colour selection of the coat immediately prior to the finishing coat shall be suitable for complete obliteration by the finishing coat.

1.3.5. Surface Preparations

Sharp edges shall be dressed to a radius of not less than 2 mm, but no more than half of the section thickness. All burrs, rags and weld spatter shall be removed as per the requirements of ISO 12944-3.
Welds shall be free from imperfections (e.g. asperities, undercutting, blowholes, craters, and spatter) which are difficult to cover effectively with a protective paint system. The onus is on the Contractor to ensure that the surfaces are ready for coating.
Preparation of concrete surfaces shall at least include:

- Removal of ridges.
- Rounding of steps.
- Removal of laitance.
- Plugging of holes and honey combing where hole diameter > 15mm and depth > 5mm.
- Removal of curing compound and shutter oils where these are apparent or could be “harmful” to the coating system.
- Removal of grease and oil.
- Careful dust removal.

It is extremely important that the Contractor endeavours to achieve the best surface preparation possible by using the latest technology when it comes to surface preparation apparatus and materials. The minimum degree of surface preparation shall be as stipulated in the detailed coating specifications.

1.3.6. Pre-Cleaning

Oil and grease shall be removed by high pressure water washing with detergent solution and rinsing with clean water prior to abrasive blast cleaning and application of coatings.
Chemical and cleaning contamination shall be removed by means of neutralising or flushing or both. It is important that clean potable water is used for cleaning, or the surfaces will be left contaminated after washing. The surfaces shall thereafter be allowed to dry completely prior to coating or before continuing with the rest of the surface preparation process.

1.3.7. Mechanical and Hand Cleaning

Mechanical and hand cleaning shall be in accordance with the procedure specified in Clause 5.4 of SANS 10064 (ISO 8540).
The standard of surface preparation shall be in accordance with ISO 8501/1 and as specified in the relevant coating system.
Cleaning by means of hand or power-tools, i.e. wire brushes, chipping hammers, scrapers, grinders, sanders, needle descalers etc. may only be used where specified in the generic coating specification and the condition of the substrate metal is such that efficient cleaning can be achieved and where the protective system is designed for application to brushed or ground surfaces, e.g. in the case of surface tolerant coatings.

1.3.8 Abrasive Blast Cleaning

Abrasive blast cleaning is by far the preferred method for surface preparation and shall always be considered first before any other cleaning method is used.
Abrasive blast cleaning shall be carried out in accordance with Clause 5.3 of SANS 10064 (ISO 8504) and the degree of cleanliness achieved shall be Sa 2.5 in accordance with ISO 8501/1.
The profile, peak to valley, when measured by SANS 5772 (ISO 8503-4), shall be as specified in the relevant manufacturer’s Product Data Sheet for the primer coating being used.
In general, an anchor profile height of 25 to 75µm is recommended for most industrial coating systems up to a dry film thickness of about 250 micron. However, in the case of heavy-duty thicker film systems, the anchor profile needs to be increased in order to cope with the mounting stresses exerted by the coating.
The required blast profile height shall be carefully considered and be within the range of the specified coating system, and as recommended in the Product Data Sheets. It is important that the blast profile does not exceed the specified thickness of the primer or first coat, especially where delays in overcoating are

expected / encountered. Any primed or coated surfaces showing signs of “measle” corrosion shall be considered defective and shall be re-blasted.
Good quality abrasives shall be used in order to minimise the amount of waste grit being generated and contamination of the surfaces.
The abrasive may be any abrasive material (except silica sand) which meets the following requirements. It shall be suitable for the substrate. It shall be composed of clean, sound, hard particles free from foreign substances such as dirt, oil, grease, toxic substances, organic matter and water soluble salts. It shall be capable of producing the surface profile as specified for the relevant coating system. The use of re-cycled blasting media is not allowed for the final blast.
The Contractor shall ensure that abrasive materials used conform to all national health and safety standards such as the OHS Act.
All abrasive media shall be stored in an area that is completely dry and covered to allow for good preservation of the materials.
In all cases, after blast cleaning, all traces of blasting media and dust shall be removed from the surface by vacuum cleaning. Cleaned surfaces shall not be contaminated with blast media, oil, grease, rust or other deposits before coating.
Sweep blasting (Micro Blasting) of Galvanized Surfaces shall be carried out only where stipulated in the generic coating system and shall be in accordance with clause 4.3.3 of SAHDGA 01-1990 – Code of Practice for Surface Preparation and Application of Organic Coatings.
The sweep blasting (Micro Blasting) of Galvanized Surfaces must not damage the galvanized surface or remove any of the zinc layer.

1.3.9. Surface Cleanliness

The required blast profile height shall be carefully considered and be within the range of the specified coating system, and as recommended in the Product Data Sheets. It is important that the blast profile does not exceed the specified thickness of the primer or first coat, especially where delays in overcoating are expected / encountered. Any primed or coated surfaces showing signs of “measle” corrosion shall be considered defective and shall be re-blasted.
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The sweep blasting (Micro Blasting) of Galvanized Surfaces must not damage the galvanized surface or remove any of the zinc layer.

1.3.10 Soluble Salts

Soluble iron salts such as ferrous chloride and ferrous sulphate are found on surfaces in marine and industrial environments. As these salts are soluble in water they can cause osmotic blistering of coatings which are applied to the steel and must be removed prior to painting.
Soluble salts shall be removed by cleaning and flushing with fresh potable water. Persistent salt deposits may be removed by proprietary solutions with the prior approval of the coating manufacturer and the Eskom Engineer.
All forms of soluble salts levels shall be measured using approved methods such as Weber Reilly Soluble Salts Test Kits or equivalent. The acceptable level of salts shall be as specified by the coating manufacturer.

1.3.11 COATING APPLICATION

1.3.11.1 Approval

No work shall be performed until the Quality Control Plan is approved by Eskom.

1.3.11.2 Mixing

The Contractor shall ensure that all paints are mixed in accordance with the manufacturer's instructions. In the case of two pack materials, the splitting of kits as supplied from the factory is not permitted. The Contractor either has to make use of smaller kits or needs to plan the work in such a way that any unnecessary wastage of paint is avoided.
During application, containers shall be agitated often enough to keep pigments in suspension.

1.3.11.3 Coating

All surfaces shall be coated as specified. Surfaces which do not require coating shall be suitably protected. To ensure minimum acceptable work standards, verifiable manufacturer or Contractor data and to assess coating performance, reference areas as prescribed in ISO 12944 - 7 and 8 are required.
The primer coat shall be applied as soon as possible after the surface preparation operation during the same shift as the blast cleaning operation, but under no circumstances may the primer be applied over rust bloom or over surfaces that have changed colour due to humidity or other contamination.
Coating application and cleaning shall not take place when site conditions are likely to negatively affect these operations. The Contractor shall ensure that the necessary protective equipment is used to prevent contamination of the coatings and to minimise delays due to such site conditions
Successive coats shall be of distinctly different colour to the previous coat to ensure correct intercoat coverage. However, two finishing coats of the same colour may be applied to achieve complete colour uniformity. Special attention shall be given to cracks, crevices and edges to ensure complete coverage and paint thickness. All finishing colours shall be to the Eskom Engineer's approval.
On pre-coated surfaces all traces of soluble salts and other corrosive airborne contaminants shall be removed with potable water and surfaces shall be allowed to dry prior to further paint application.
Concealed surfaces shall be completely coated. Suitable sponges may be used for application of coating to concealed surfaces or back to back angles. In the case where it is impractical to coat the concealed surface, the opening shall be sealed utilising an approved mastic material.
All edges, corners, bolt holes, mouse holes, cut ends and weld beads shall be stripe coated by brush application, prior to the application of the intermediate coat. The stripe coating shall be an additional coat of the specified intermediate coat. In order to assist in its identification, the stripe coat shall be a different colour to both the specified intermediate coat and finishing coat. Under no circumstances shall stripe coating be carried out by roller or spray-application.
The stripe coat is not intended to increase the overall specified dry film thickness of the system but to ensure that the minimum thicknesses required are actually achieved at edges.

1.3.11.4 Application

Unless otherwise specified, all coatings applied in the shops or on site shall be applied by airless spray techniques.
In instances where spray application is considered not to be possible, practical or feasible, this must be brought to the attention of the Eskom Engineer at the time of tendering.
The Contractor should note that many of the high build coatings specified in the relevant systems are only capable of achieving their recommended film thicknesses by spray application. Other application methods such as brush and roller can result in lower film builds being achieved per coat.
Unless otherwise specified, all application work shall be carried out in strict accordance with the recommendations and instructions given in the signed Product Data Sheet supplied by the coating manufacturer. This includes required climatic conditions, methods of surface preparation, substrate temperatures, blast profiles, over coating times, application equipment and methods to be utilised and pertinent requirements not listed in this Standard.
In the case of equipment manufacturer's proprietary finishes on items such as pumps, motors, valves etc, these systems may only be used if prior approval has been obtained from the Corrosion Department at Research Testing and Development (RT&D). Where the substrate has received a primer coat in the factory (e.g. galvanised substrate, metallised substrate) the Contractor shall check the compatibility of the coatings that he proposes with the primer coat, and is responsible for this choice.
All coatings shall be evenly applied to form a smooth, continuous, unbroken coating free from tears, runs, sags, wrinkles, blisters, mud-cracking, change in colour or gloss, orange peel, visible pinholes, dirt, dust or fluff occlusions or any other visible defects. Each coat shall provide complete coverage.
Surfaces which rest on concrete or other floors shall receive the full coating system prior to erection.

The Contractor shall take adequate precautions to protect areas being painted against contamination and fall-out from adjoining sections of the structure during painting operations, should this become necessary. Coated steel to be embedded in concrete or soil shall be painted so that the coated areas extend at least 100 mm into the concrete or soil, unless otherwise specified.
Where surfaces are to be welded, no paint shall be applied within 50 mm of the weld and the subsequent intermediate and finishing coats (where applicable) shall be stepped at 25 mm intervals to produce a feathered edge for patch repairs after welding. The steps may be achieved by using masking tape at the time of surface preparation and coating applications. The masking tape on the blast cleaned surface adjacent to the weld area shall be left in place to provide temporary protection until the welding is carried out.
The supplier shall apply the full painting system specified on the bearing surfaces of catwalks before the gratings or relevant floor sections are put in place.

1.3.11.5. Ambient Conditions
Coatings shall not be applied under the following conditions:

- When the surface may become damaged by rain, air borne dust, chemical fall-out, fog or condensation and it is anticipated that these conditions will prevail during the drying period, suitable enclosures shall be provided to protect the surfaces.
- When the ambient air temperature or the steel temperature is outside the coating manufacturer's recommended range.
- When the ambient relative humidity exceeds 85%.
- Using the above data, the dew point shall be determined by means of a suitable dew point calculator. During coating application, the substrate temperature shall be at least 3ºC above the dew point.

1.3.11.6.Patch Repairs to Transport and Erection Damage
The Contractor shall be wholly responsible for surface preparation and coating application. The coated surfaces shall meet the minimum dry film thickness required by required by ISO 12944 'durability requirements'.
Provisions must be made for the repair of handling damage to the coating after erection.
Following erection, all areas of coating damage shall be patch repaired by brush application. The extent of the damage shall be carefully inspected to assess which coats in the system have been damaged. When the damage extends to the steel substrate, all coats in the system shall be re-instated. Areas to be primed shall be cleaned of dust, dirt, grease, salts or other deleterious matter and abrasive blast cleaned to grade Sa 3 of ISO 8501/1. All edges of existing coatings shall be feathered back to a hard edge. The patch primer used shall be in accordance with the requirements of the relevant coating system.

1.3.11.7. Fasteners and Friction Grip Surfaces
All nuts and bolts shall be either 'black' or zinc coated as specified.
Friction grip areas shall be left uncoated with the exception of steel work that is either galvanized or primed with inorganic zinc silicate. The uncoated friction grip areas shall be sealed to prevent the ingress of corrodants. The sealer used shall either be a poly-isobutene coating or recommended by the coating manufacturer as being suitable for the environment and compatible with the protective coating system. The sealing material shall be applied either by gun or spatula after erection. Where possible the sealant should be the same colour as the finishing coat.

1.3.11.8 Shop Painting
a) The contractor shall furnish the materials specified and ensure that they are applied in strict accordance with this standard.
The contractor shall be wholly responsible for surface preparation and coating application. The coated surfaces shall meet the minimum dry film thickness required by required by ISO 12944 'durability requirements'.
Provisions must be made for the repair of handling damage to the coating after erection.

1.3.11.9 Site Painting
a) In situations where primer or first coats have been applied in the shop then the finishing coats being applied on site shall be sourced from the same manufacturer as the shop applied primer and intermediate coats.
All shop coated surfaces shall be inspected and examined for mechanical damage on arrival on site. If the damage is excessive, it may be preferable to repair this transport damage before erection whilst access is

easier. Alternatively, all repairs may be carried out after erection. Repairs shall be carried out in accordance with clause 1.3.11.6.
If site respraying is necessary, all other areas not to be painted shall be carefully masked. Any overspray which occurs despite this masking shall be removed by the Contractor.
In the case where coating systems are to be applied in the shop and then later finished on site the Contractor/manufacturer shall define the acceptance criteria specifically in terms of all damage and coating deterioration mechanisms as defined in ISO 4628 Part 1 to 6. The acceptance criteria will be reviewed by Eskom prior to tender award.
The shop applied coats must be thoroughly washed to remove all traces of dust, dirt, grease, salts or any other forms of surface contamination. Where deemed necessary, detergent cleaners, as recommended by the respective coating manufacturers, may be used.
After cleaning, all areas of damaged coating shall be patch repaired as detailed in 1.3.11.6.
Where more than one coat is being applied on site, surface preparation and washing as per 1.3.11.9 (below) above shall be carried out between coats in accordance with the coating manufacturer’s data sheet.
Where paint is allowed to age before finishing, the coating manufacturer may require that the surface be prepared by light sanding, scrubbing with potable water using a bristle brush and drying before overcoating.
The applicator must continually involve and liaise with the paint manufacturer regarding the specific site conditions to confirm that the requirements as per the product data sheet are achieved. If unsure about over-coating on aged primer or subsequent coats then destructive tests shall be conducted to confirm the soundness of the application over aged primer.
All coatings shall be given adequate time for curing prior to service. On average, for most organic coating systems, full cure is achieved after 7 days at 25ºC providing good ventilation is maintained.

2 Management strategy and start up.

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

A bar chart type programme for routine inspections/load test must be submitted at the start of this contract for the employer's representative approval. The programme must consist of each activity, with inspections and preparations. Further details are activities to be shown when access is required and the start/completion dates and duration for each activity. If requested by the employer's representative, the contractor must submit a short bar chart type programme for the task order issued, as and when task orders are issued to the contractor.

2.2 Management meetings

Meetings shall be held to mutually promote and to pro-actively and jointly manage the administration of the contract with the objective of minimising the adverse effects of risks and surprises for both Parties.

During execution the *Contractor* holds a toolbox talk each morning before commencing with the *services* to discuss the previous day's work and to ensure that everyone understands what is required of them.

When required, the *Contractor* must have a representative at each daily morning meeting during planning and execution phases.

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

Meetings	**Approximate time & interval**	**Location**	**Attendance by:**
Kick-off	Once-off	MS Teams	*Employer, Contractor, Service Manager* and Employer's personnel (Safety, Technical, Quality, Environmental, SDL&I representatives etc)
Risk Reduction	Adhoc	MS Teams/Drakensberg	*Employer, Contractor, Service Manager* and Employer's personnel (Safety, Technical, Quality, Environmental, representatives etc)

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

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

Attendees shall have the necessary delegated authority to make decisions in respect of matters discussed at each meeting.

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

The *Contractor* shall supply the *Employer* with the organogram indicating the hierarchy of dedicated and appointed project personnel with their lines of authority / communication. The Organogram shall include contact details and emergency response (24-hour) information.

The *Contractor* employs persons that are competent and efficient in their several trades and callings, to achieve safety excellence, and the *Employer* reserves the right to object to and require the *Contractor* to remove from the *services,* forthwith, any person employed by the *Contractor* who, in the opinion of the *Service Manager* is incompetent, misconduct's himself or is incompetent or negligent in the proper performance of his

duties and such person is not again employed for the *services* without the written permission of the *Service Manager.*
The Contractor shall ensure that there are at all times sufficient suitably qualified, experienced and skilled staff to carry out and supervise all activities. Staff shall be qualified in terms of the South African Qualification and Certification Committee for Corrosion Protection {SAQCC (Corrosion Protection)} as follows:

- Applicators: General Heavy Duty Coatings Applicator (PA1)
- Supervisors: General Paint Supervisors (PS1)
- Inspectors: Coating Inspectors (Level 1 or Level 2) or NACE CIP Level 1, 2 or 3

The Contractor shall meet the **REQUIREMENT CRITERIA FOR CORROSION PROTECTION COATING APPLICATORS** (See Annexure A) and shall have been rated in accordance with the **CAPABILITY CHECKLIST FOR CORROSION PROTECTION COATING APPLICATORS** (See Annexure B).

2.4 Provision of bonds and guarantees

Eskom requires performance guarantees for the applied coating systems. Such guarantees shall be provided jointly by the Contractor in collaboration with the coating applicator/s and manufacturer's at the time of tender. The typical minimum guarantee period will be 15 years for coating systems with a polysiloxane finishing coat and 8 years for other systems. The criteria for failure will not exceed Ri 2 of ISO 4628-3. Although visible coating defects such as blistering, cracking, flaking and peeling are not always associated with visible rusting, they indicate defects that could either lead to substrate corrosion or are shielding substrate corrosion that has already taken place beneath the coating. Any such defects noted during the guarantee period shall be the Contractor's responsibility and shall be repaired.

2.5 Documentation control

2.5.1 Identification and Control

All reports and documents supplied to Employer shall be in a hard copy and electronic format and is on Microsoft format (i.e. Word, Excel, and the like).
Electronic copies of text files shall be in '.doc'.
Every document must have a title, reference number, date and revision number
The Contractor handles all formal communication between the Contractor and the Employer through the Employer's Representative or other person delegated in writing by the Employer.
The Contractor conducts informal day-to-day oral communications with others as necessary for the purpose of Providing the Services.
The Contractor maintains up to date record of the receipt and submission of all communication related to Providing the Services.

2.5.2 Documentation to be provided by the Employer

The Employer, on request from the Contractor, provides copies of all applicable Employer standards, procedures, guides and forms. The Employer provides access to all available Site documentation required for providing the Service. Copy requests are made in writing, to the Service Manager, and details the exact documentation identification numbers. Documentation is provided in accordance with the latest Accepted Programme.

2.5.3 Communication

All communication is addressed to the Service Manager or the Supervisor, as applicable to the TSC3. All communication makes reference to:
• The contract number that is issued by the Employer (normally a 46000xxxxx number),
• The title of the contract,
• Any previous references relating to the specific communiqué (i.e. a response to a Service Manager's communication),
• The specific TSC3 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……..
• From the Contractor to the Service Manager: 46000……..

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. Email to Invoiceseskomlocal@eskom.co.za and copy Service manager.
The Contractor shall address the tax invoice to
Eskom Holdings SOC Ltd
Eskom Peaking Generation
Att: Financial Accounting
P.O Box 3487
Tygervalley
7536
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; (in line with SARS compliance)
- 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.
- Task order number

Note:
1. Use your order number as a reference on your invoice
2. Eskom Vat Number 4740101508 must always reflect on your invoice
3. Eskom Holdings Limited Conditions of Purchase will apply on this order/contract

2.7 Contract change management

The Contractor is responsible to document and resolve any required changes on his Equipment. The approval process indicated in the Service Information is adhered to, by the Contractor.
The Contractor adheres to the contract change management procedure. The details of the contract change management procedures are agreed between the Service Manager and the Contractor at the project kick-off meeting.

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

Clear records of hours worked or time sheets in respect of all time charges shall be kept by the *Contractor* and shall indicate the resource utilised, location, duration, and times, associated expenses incurred, and a summary of the *services* rendered which shall be cross-referenced to deliverables rendered. The records of hours shall indicate to the *Service Manager* the time spent. The *Service Manager* shall review all time sheets.

Records to be kept and separated in the following categories:

- SHE related
- Labour costs
- Transport
- Accommodation
- Living out
- Materials
- Plant and equipment

The *Contractor* maintains records of all documentation and shall be provided to the *Service Manager in* electronic format and hard copy

2.9 Insurance provided by the *Employer*

Insurance will be applicable as per insurance clauses on the TSC3 and applicable Z clauses.

2.10 Training workshops and technology transfer

The *Contractor* provides training as per the SD&L targets.

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

2.11.1 Equipment

None

2.11.2 Information and other things

The Contractor upon request, submits records of all information that is utilized during the period of this contract.

2.12 Management of work done by Task Order

Work against this contract can only be performed upon receipt of a Task Order. No amount of work is guaranteed under this contract. The Employer can issue a Task Order or a revision thereof without first seeking a proposal from the Contractor. The Contractor performing work without a SAP task order is done at the risk of non-payment by the Service Manager.
The Task Order will include the following information:
• A description of Works
• Task Order reference number
• The Employer's Representative or Employer's Site Supervisor who will be the contact person for all matters concerning the applicable Task Order, including technical direction.
• The contract reference number allocated to the contract
Unless the Contractor notifies the Employer in writing within the period for reply, after the receipt of a Task order or any revision thereof, that there is an aspect which is unclear, incorrect or unacceptable, the Contractor shall be considered to have accepted all the terms of the Task Order as issued. Any Task Order that is not signed by the duly authorized representative of the Employer is void and of no effect, and the Contractor shall not be compensated for any work performed pursuant to such Task Order.
The Service Manager may not issue a SAP task order after contract validity end date unless the contract is modified and that the Contractor has received and agreed to a notification letter stating terms and conditions of modification.

3 Health and safety, the environment and quality assurance

3.1 Health and safety risk management

The Contractor shall comply with the health and safety requirements contained in OHS Requirements and the approved safety file by the Employer. The 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.

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

The contractor's OHS professional must conduct internal audits at planned intervals (for the duration of the contract at all Peaking Power Stations) to monitor compliance to the contractual health and safety requirements.

The Contractor may be selected during internal and/or external Peaking Power Station 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.

In addition to the requirements of the applicable laws governing the occupational health and safety, Peaking Power Stations 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 Peaking Power Station include the following 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.
Note: Induction will only be conducted after the above documents have been submitted and accepted by Eskom.

3.1.1 SHE File
The *Contractor* is required to compile a SHE File before the commencement of work. The SHE file must be submitted to the *Employer* for review and acceptance, two (2) weeks days before any work can commence.

3.2 Environmental constraints and management
The Contractor's attention is drawn to the fact that Drakensberg Pumped Storage Scheme is situated in highly sensitive areas with respect to the environment. *Contractor* complies 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.

The site is ISO 1401 certified and the *Contractor* will be expected to manage all processes in line with environmentally sound principles.
The *Contractor* 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

Following rules and regulations shall apply on the Affected Property, to promote *Employer's* goal of zero harm to the environment:

Respect and care for the natural environment and for each other
Minimise or mitigate any impacts that may cause harm or pollution to the environment.
Report immediately an environmental incident requiring action.

3.3 Quality assurance requirements

3.3.1 Contractor Qualification
a) The Eskom Engineer may, at his discretion, require a Quality Audit of the Contractor (coating applicator and coating manufacturer) to ensure adequate management, facilities and skilled staff to carry out the work in accordance with the Standard.
b) The Contractor shall retain full responsibility for the quality of his work and of materials used, irrespective of any quality surveillance that may be carried out by the Eskom Engineer.

3.3.2 Quality Control
The Contractor shall have the necessary equipment and qualified staff to carry out the quality control required to ensure compliance with the Standard.
Quality control shall be carried out by a qualified inspector who is independent of the application activities. Quality control cannot be carried out by the site supervisor or any member of staff involved in production and programming.
The Contractor shall retain at least the following records:

- Material batch records
- Signed Product Data Sheets.
- Psychrometric records (including steel temperatures).
- Records of surface preparation.
- Records of dates and times of the application of each coat including repair coats.
- Dry film thickness measurements per coat including repair coats.
- Records of specific tests as required by the Eskom Engineer.

These records shall be kept in a format that meets the approval of the Eskom Engineer which will be agreed at the pre-job meeting.
The cost of quality control shall be included in the Contractor's tender price.

Before the commencement of the contract, the Contractor shall prepare the following:

- A Quality Plan detailing each activity to be carried out during the execution of the works. Each activity shall be supported by a detailed Works Procedure for that activity. The Quality Plan shall also detail the inspection requirements of each specific activity, listing whether it is a review, witness or hold point, and defining the responsibilities of the various parties at each stage of the works.
- The Safety File.
- The joint guarantee with the applicator and coating manufacturer as required Under guarantees.

The Contractor shall provide the necessary documentation to be used during all quality control inspections. Such documentation shall be reviewed and accepted by the Eskom Engineer before coating commences.

4.10.3 Quality Surveillance

The Eskom Engineer may either carry out Quality Surveillance of the work or employ an independent technically qualified organisation to carry out Quality Surveillance of the work on his behalf. In the event of dispute, the decision of Eskom shall be final.

For the purpose of carrying out quality surveillance, the Eskom Engineer or his authorised representative shall be granted access to any part of the Contractor's premises relevant to the work being carried out, at any reasonable time. The Contractor shall provide, at his own cost, any equipment or labour necessary to gain safe access to surfaces which are coated, to be coated or are in the process of being coated. The Eskom Engineer or his authorised representative may remove any reasonable samples of materials to be used in the coating application. Rejection of the samples shall place a hold on the use of material of the same batch number and may lead to rejection of all that batch of material and the reworking of any components that have already been coated with rejected material.

The Eskom Engineer or his authorised representative may carry out reasonable destructive tests to ascertain compliance with the Standard. Areas thus damaged shall be repaired by the Contractor to the satisfaction of the Eskom Engineer at no additional cost.

The cost of quality surveillance will be borne by Eskom, except where surveillance results in rejection of the work or when notice by the Contractor results in a fruitless trip, in which cases the cost of surveillance shall be carried by the Contractor.

A report shall be compiled by the surveyor for each visit. A copy of the report will be given to the Contractor on completion of each surveillance visit.

4.10.4 Release Certificate

The coating/lining applied in the shops will be inspected by the Eskom Engineer or his authorised representative at the Contractor's premises before releasing the coated items for delivery. A clearance certificate will be issued by the contractor authorising the release.

The Contractor shall notify the Eskom Engineer or his authorised representative in advance and timeously of the date on which the coating activities will be complete and ready for inspection.

The coating applied on site will be inspected by the Eskom Engineer or his authorised representative. A final acceptance certificate will be issued after the completion and final inspection and acceptance of each area of the structure.

On completion of the total structure, plant, equipment or contract a final inspection shall be carried out by the Eskom Engineer or his authorised representative and a Contract Completion Certificate issued. Final payments will not be made until this Contract Completion Certificate has been issued. This final 'completion' inspection shall be carried out just prior to the commissioning of the plant.

4 Procurement

4.1 People

4.1.1 Minimum requirements of people employed

Contractor provides valid work permits for all foreigners.
Staff to have good verbal and written skills in English
The *Contractor's* ensures that only qualified people will be allowed to work on plant. The *Service Manager* is entitled to verify the qualifications of the key people.
Only personnel with a clear criminal result will be granted access to site.
Full staffing complement to be always in place. The *Contractor* will ensure that complementary staff is available during any absence, or any abnormal situation inter alia leave; training etc.
The *Contractor* acquires general labour locally within the Bergville area in liaison with the station management.
The *Contractor* must comply with the South African Labour Relations Act and ensure that their staff is compensated in accordance with Labour act and applicable regulations.

4.1.2 BBBEE and preferencing scheme

The following documents are required to claim preference points,
• Valid B-BBEE certificate issued by a SANAS accredited verification agency / sworn affidavit / CIPS affidavit
• Proof of ownership / shareholding (preferably CIPC documentation) inclusive of shareholding breakdown
• Certified ID copies of shareholder(s)
• Proof of Disability (where applicable)
• In a case of a trust, consortium or joint venture (including incorporated consortia and joint ventures),a consolidated B-BBEE status level verification certificate.
Tenderer failing to provide documentation for the allocation of preference points will not be disqualified, but'
• May only score point out of 90/80 for price
• Scores 0 points out of 10/20 for specific goals

4.1.3 Supplier Development, Localization, and Industrialization (SDL&I)

"Local Procurement" refers to value added in South Africa by South African resources. Where a single contract involves a combination of local and imported goods and/or services, the tender response must be separated into its components as per the Price Schedule included with the tender documents. Local procurement is total spending minus the imported component.
Tenderers are required to submit their proposals in the table below.
Local Procurement Eskom target Tenderer Proposal 100%

4.1.3.1 Skills development

Tenderers are required to submit proposals in a table below for developing the skills of unemployed candidates in the country. Skills development is intended to address Eskom's core, scarce and critical skills and the scarce and critical skills. These skills are also included in a 2020 list of occupations in high demand as stipulated in the Government Gazette 43937. Candidates shall be from all provinces in the country, and their composition shall be representative of the population demographics of South Africa

Skill type / Occupation	Eskom target	Entry Level	Output	Tenderers Proposal
Health and Safety Officer	1	**N3/ Grade 12**	SAMTRAC/ Equivalent	

The process of developing these skills shall involve the participation by tenderers directly and through their supply network. In certain cases, the SETA's accredited training providers can be approached to participate in developing critical and scarce skills.

Note: That these targets for skills development candidates categorically exclude Eskom employees and registered learners. The tenderers are required to take full responsibility for the total cost of developing the requisite skills, and Eskom shall not make any financial contribution towards the fulfilment of this obligation. Tenderers also are advised to approach their relevant SETAs to access grants, subsidies, and incentives as well as South African Revenue Services for tax rebates that are earmarked for skills development initiatives.

4.1.3.2 SDL&I Penalty and Performance Security

Eskom will apply a penalty of ***2%*** of the Contract Value for failure to meet SDL&I obligations.
For the duration of the contract, Eskom will retain ***2%*** of every invoice (excluding VAT) as security for the fulfilment of all SDL&I Obligations. The retained amounts shall only be released to the Contractor upon fulfilment of all SDL&I obligations by the contractor.

4.2 Subcontracting

4.2.1 Preferred subcontractors

Subcontracting to be done as per 4.1.3.1 above.

4.2.2 Subcontract documentation, and assessment of subcontract tenders

Supervision may not be subcontracted.

4.2.3 Limitations on subcontracting

It is the sole responsibility of the *Contractor.*

4.2.4 Attendance on subcontractors

It is the sole responsibility of the *Contractor.*

4.3 Plant and Materials

4.3.1 Specifications

In all cases the degree of cleanliness for coating systems shall be Sa 2.5 in accordance with ISO 8501/1.
In cases that are considered critical and strategic, coating shall only be performed by applicators with a rating of 3 as defined in in Contractor skills and competences.3.2 (c).

4.3.2 Correction of defects

Should the Contractor wish to propose alternative products and/or methods to either coatings or systems, he shall submit a detailed motivation to the Corrosion Department at RT&D. The motivation shall include, but not be limited to, the following:

- Benefit to Eskom
- Product licensor and technical back-up available
- Location, experience and ISO quality rating of the production facility
- Detailed case histories
- Performance guarantee offered
- Manufacturer's data sheets for each product

The alternate coating/s or systems shall be defined and classified according to the criteria listed in Annexure E.

Should the proffered case histories be deemed insufficient or inconclusive, additional testing may be required to confirm the adequacy of the alternative coating materials. The costs of such testing will be borne by the Contractor.
Eskom reserves the right to reject the proposed alternative products and will not be in any way obliged to accept testing as described on the previous sentence.

4.3.3 *Contractor's* procurement of Plant and Materials

4.3.3.1 Handling
All coated components shall be handled using soft slings. Large components shall have sufficient lifting/support points to avoid flexing or bending that could damage the applied coating systems.

4.3.3.2 Loading
All coated components to be transported shall be loaded with support blocks, packing between pieces and tight lashing to avoid chafing.

4.3.3.3 Off-loading
Off-loading at site shall be conducted using the same care and precautions for on-loading. Components shall not be tipped off the transportation.

4.3.3.4 Cover
Coated items shall be stored under cover where possible.
Shop applied coatings that require site finishing and are sensitive to weathering must be shielded and protected to prevent degradation.
Items not stored under cover shall be stored in such a manner as to avoid retention of water and allow good air circulation.
Items shall be stored on baulks of timber to raise the lowest level above the rain splash zone.

4.14.5 Stacking
a) Items shall be stacked using timber packings or other approved means to avoid coating to coating contact. Sufficient bearing area of packing shall be used to avoid damage to coatings. The steelwork shall be placed in such a manner as to ensure adequate drainage of rainwater and condensation.

4.3.4 Tests and inspections before delivery
The Contractor shall have a blast profile gauge, wet film comb, and a dry film thickness gauge at the shop/site at all times. The Contractor shall also have at the shop/site instrumentation to measure the psychrometric conditions and the substrate temperature.
The electronic dry film thickness gauge shall conform to the requirements of SANS ISO 2808 and shall be calibrated using the smooth calibration disc supplied by the instrument manufacturer.
All test equipment and shims shall have current calibration certificates.

The spray equipment used shall be capable of properly atomising the material and shall be equipped with suitable pressure regulators and gauges. Air caps, needles and nozzles shall be of the type recommended by the coating manufacturer.
All spray painting equipment shall be fitted with suitable oil and moisture traps.

4.3.4.1 Surface Preparation
The blast profile shall be measured in accordance with SANS 5772 (ISO 8503-4).

4.3.4.2 Visual Inspection
Visual inspection for paint film defects shall be performed after each coat is applied. All defects including pinholes, runs, sags, dry spray etc. shall be corrected based on the requirements of ISO 12944 Part 4, before the next full coat is applied. Inspection and rectification shall be based on the requirements of ISO 12944 Part 4.

4.3.4.3 Dry Film Thickness (DFT)
DFT shall be measured in accordance SABS ISO 2808 and instruments shall be calibrated using the smooth calibration disc supplied by the instrument manufacturer.

The frequency of dry film thickness readings shall be a minimum of three reading per square metre of coated surface or more such as to be defined in the works package and documented in the applicable QCP, as agreed between the Contractor/applicator and the Eskom Engineer at the start of the coating applications.
The product data sheet shall indicate the required minimum and maximum DFT. The DFT is given in a range for each coat in the relevant coating system. These are the required minimum and acceptable maximum thicknesses. No individual thickness shall be less than 80% of the specified minimum thickness and not more than 20% of thickness measurements taken shall be less than the specified thickness. No individual thickness shall be greater than 120% of the specified maximum thickness.
Where excessive film thickness can be detrimental to the integrity of the coating, the manufacturer's recommended maximum thickness shall apply.
The increase in thickness created by the application of the stripe coat shall not be used to justify recorded thicknesses that are in excess of the maximum specified thickness of the system.
All deficient film thicknesses shall be rectified to the approval of the Eskom Engineer at the Contractor's expense.
Actual readings and not averages shall be recorded.

4.3.4.4 Adhesion Tests

Adhesion testing shall be based on the requirements of ISO 12944 Part 4.
Random pull-off adhesion tests shall be carried out on the applied coatings using the ASTM D4541 test method. Adhesion (pull-off) values of the coating to the substrate (A/B) shall be a minimum of 5 MPa with no intercoat adhesion or cohesion failures as determined by a mechanically spring-loaded pull-off tester and not by an hydraulic pull-off tester.
The number and location of tests shall be agreed with the applicator at the start of the works. If testing results indicates deficiencies then the number of test will be increased accordingly. Inspection and rectification shall be based on the requirements of ISO 12944 Part 4.
Repairs to the coating damaged by the tests shall be carried out in accordance with clause 4.7.6.

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

all other Plant and Materials are to be provided by the *Contractor*

5 Working on the Affected Property

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

Drakensberg Pumped Storage Scheme is a National Key Point. All persons intending to perform work and/or attend meetings during this contract period comply with the following:

- The *Contractor* adheres to all Life Saving Rules and emergency procedures.
- 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 the following must be adhered to:
    - Speed limit
    - Obey all road signs
    - Damage to *Employer's* plant/property will be for the *Contractor's* account.
- All *Contractor* personnel are in possession of clearance certificate obtained from South African Police Service (SAPS) Criminal Record Centre (CRC) or an accredited supplier linked to the SAPS Automated Fingerprint Identification System (AFIS), along with a copy of their identity document or passport. Verification records are submitted as part of the safety file together with ID copies as well as valid work permits for foreigners. Only personnel with a cleared criminal record will go through safety induction.
- Original Identity document (ID) or passport is presented to Security on arrival
- No weapons may be taken on site
- No drugs allowed on site

- No explosives 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 (including random testing). 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
- *Contractor* shall be subject to searches, including vehicles, tools, equipment, objects, or materials, or anything else deemed appropriate for searching, at any time when entering or exiting the *Employer's* premises.
- Removal of equipment or materials from site without proper authorisation is strictly prohibited.
- The *Contractor* communicates any resignations or suspensions to the *Service Manager* and ensures that replacement personnel have undergone criminal background checks and work permit verifications prior to reporting to the *Employer's* premises.
- *Contractor* is required to comply with the access control standard and security instructions to maintain a secure working environment at the *Employer's* premises.
- No recruitment on site or at the main access gates or any of the *Employer*'s premises is allowed.
- All activities on plant must be preceded by a task risk assessment – Risk assessment as per the *Employer*'s standard, to be current at all times (Live Document).

Asset registers of all tools and equipment incorporated or consumed in providing the service shall be maintained by the *Contractor* and shall be audited and inspected by *Employer* from time to time.

5.2 People restrictions, hours of work, conduct and records

The *Contractor* keeps records of his people working on the Affected Property, including those of his Subcontractor. The *Service Manager* shall have access to them at any time.

During the execution of this contract, other *Contractor*s or *Employer's* personnel may be performing work on the plant and the *Contractor* must take due cognisance of this in planning and providing the service.

Working times will be agreed upon by the *Contractor* and *Service Manager*

5.3 Health and safety facilities on the Affected Property

- The *Contractor* is to provide own first aid box.
- In case of an injury on duty, the *Contractor's* first aider must attend to the injured. An injury on duty must be reported to the *Service Manager*.

Emergency Number at Affected Property - dialling (036) 438 2007/2008

Casualty facilities are available at hospitals within a 100 km radius.

5.4 Cooperating with and obtaining acceptance of Others

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

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

5.5 Records of *Contractor's* Equipment

The *Contractor* declares all equipment and tools to security personnel on arrival.
The security personnel will register declared equipment or items and the *Contractor* keeps the copy of the register.
When removing items from site, the items declared are verified by security personnel.

For lifting equipment, *Contractor* ensures load test certificates and inspection remain valid.
On completion of the works, the Contractor shall provide the Eskom Engineer with a Data Book containing all the relevant Quality Control documents and records pertaining to the works.
This data book shall contain, as a minimum, the following:

- The Quality Plan.
- Copies of all Batch Release Certificates from the manufacturer acquired during the course of the project.
- Copies of the signed paint manufacturer's data sheets acquired during the course of the project.
- All relevant QC Records listed Under quality control.

The Contractor shall submit to the Eskom Engineer the number of copies of the Data Book as required by the contract. In addition, the coating manufacturer shall retain a copy of the Data Book for his own records.

5.6 Equipment provided by the *Employer*

Scaffolding will be arranged where required, Contractor to notify the Service Manager early.

5.7 Site services and facilities

5.7.1 Provided by the *Employer*

Electricity Supply

- All points of supply are provided in terms of availability and location.
- The *Employer* indicates which supply points may be used.
- 220V electrical supply is generally available in the power station complex, the *Contractor* ensures they have the correct matching plugs
- 380V supply is also available, the *Contractor* ensures they have the correct matching plugs.
- The *Contractor* verifies extension lead requirements.
- No warranty is offered or given by the *Employer* that the existing available electrical supply will necessarily be adequate for the *Contractors* purposes nor that such supply is in any way guaranteed.
- The distribution of electricity shall be carried out by the *Contractor* strictly in accordance with the applicable laws and regulations.

Potable Water

- All points of supply are provided in terms of availability and location.
- The *Employer* indicates which supply points may be used
- The *Employer* supplies potable water for the purpose of the works, at existing points and in reasonable quantities. Uninterrupted supply is not guaranteed, *Contractor* to make own arrangements.

Pneumatic air

- The *Employer* supplies pneumatic supply for the purpose of the works, at existing points and in reasonable quantities. Uninterrupted supply is not guaranteed and is not grounds for compensation events.
- All points of supply are provided in terms of availability and location.
- The *Contractor* verifies extension hose requirements

Area for Site establishment and Storage

- A storage area will be indicated to the *Contractor*.
- Security to the *Contractor's* storage is the responsibility of the *Contractor*
- The area allocated to the *Contractor* is reinstated to their former condition on completion of the service.

Ablution facilities

- The *Contractor* is allowed to make use of the *Employer*'s ablution facilities.

The *Contractor* provides everything else necessary for Providing the Service

5.7.2 Provided by the *Contractor*

- *Contractor* to provide and ensure safe transportation services for all his employees and it must comply with 240-62946386
- *Contractor* to provide own (Coffee, sugar, milk, tea etc.)
- All computers and printers' accessories needed to be provided by the *Contractor.*
- The *Contractor* to provide accommodation and meals for his / her employees and costs for this to be included in the contract price.
- All PPE to be provided by *Contractor* and it shall comply with the requirements of GSR 2 of the OHS Act and Eskom PPE Specification Standard 240-44175132
- Provide SABS approved Safety harnesses as per the *Employer*'s Safety Requirements
- *Contractor* to supply own electricity and hose extensions at the *Contractor* own costs.
- *Contractor* to supply own communication system such as two-way radios.

5.8 Control of noise, dust, water and waste

The *Contractor* will keep noise and dust levels to a minimum. At no time shall his/her work result in nuisance, interference or danger to the staff or any other person working at the site. The *Employer* will make water and waste disposal available to the *Contractor*. The *Contractor* provides workers with PPE to protect against noise and dust.

5.9 Tests and inspections

5.9.1 Description of tests and inspections

Witness and/or hold points which will be solely dependent on the QCP's for the Task to be undertaken. The *Contractor* informs the *Service Manager* well in advance of such intervention in order not to cause any delays.

5.9.2 Materials facilities and samples for tests and inspections

The *Contractor* provides everything necessary for the witness and/or hold points by the *Employer*.

6 List of drawings

7 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

APPENDIX A: REQUIREMENT CRITERIA FOR CORROSION PROTECTION COATING APPLICATORS REQUIREMENT CRITERIA FOR CORROSION PROTECTION COATING APPLICATORS	
Compiled By: Main Contractor **Name:**	**Date:** **Company Representative Name:** **Title:** **Signature:**

1. Quality Assurance

Fully operational Quality Management System that meets the intent of ISO900. Required documentation to include:
o Quality Control check sheets to record paint batch numbers, psychrometric conditions, surface preparation, coating application and special tests as required.
o Works Procedures
o Daily Activity Reports
o Quality Control Plans
o Inspection and Test Plans
o Contract/Works Programmes
o Non-Conformance Reports
o Release Certificates
o Certificates of Conformance
o Data Books

2. Personnel and Skills

o Appointed Site Manager/representative with project management skills.
o Competent site supervisors qualified to SAQCC (Corrosion Protection) Module PS1 ‘General Painting Supervisors’.
o Coating applicators/painters qualified to SAQCC (Corrosion Protection) Module PA1 ‘General Heavy Duty Coatings Applicator’.
o Coating inspectors qualified to SAQCC (Corrosion Protection) ‘Coating Inspectors’ Level 1 (shop inspections) or Level 2 (site inspections) or NACE Coating Inspection Programme (CIP)
o Sufficient personnel must be available to carry out the work within the required time frame.

3. Safety

o Appointed safety officer.
o Fully comprehensive Safety File satisfying both the OHS Act as well as Construction Regulations

REQUIREMENT CRITERIA FOR CORROSION PROTECTION COATING APPLICATORS (Continued)

Compiled By: Main Contractor **Name:**	**Date:** **Company Representative Name:** **Title:** **Signature:**

4. Facilities and Equipment

Rating	Activity Type	Equipment
1	On-site patch repairs and topcoats. Maintenance painting where abrasive blast cleaning and spraying not required or possible.	Mechanical Cleaning: needle guns, power wire brushes etc. Hand cleaning: wire brushes, scrapers, sandpaper etc. Paint Applications: brushes and rollers.
2	Rating 1 activities + Abrasive blast cleaning and priming at fabricator's works or on site. Spraying of any or all coats.	Rating 1 equipment + Surface preparation: compressors, blast pots. Paint Applications: conventional and/or airless spray equipment.
3	Rating 1 & 2 activities + Working in confined areas such as tank linings, Cooling Water duct linings, penstock linings etc.	Rating 1 & 2 equipment + Blast media removal equipment, vacuum cleaners, high pressure water washers, dehumidifiers. Lighting and ventilation equipment. Additional qualified staff required when time constraints require night shifts.

5. Quality Control Testing Equipment

o Hygrometer
o Wet film thickness (WFT) gauge.
o Depth profile gauge.
o Surface temperature gauge.
o Electronic dry film thickness (DFT) gauge.
o Pin-hole detection equipment (low voltage wet sponge or high spark) as required.

6. Case Histories

o Records of completed successful contracts.
o List of major clients.

APPENDIX B: CAPABILITY CHECKLIST FOR CORROSION PROTECTION COATING APPLICATORS CAPABILITY CHECKLIST FOR CORROSION PROTECTION COATING APPLICATORS		
Main Contractor:		
Company Representative Name and Title :	Date:	
Signature:		
Applicator:	Report No:	
Date of Evaluation:	Vendor Number:	
Scope: Quality Management System compliance, facilities, equipment, skills & general rating.		
Requirements	**Y/N**	**General Comments**
1. Quality Assurance		
Is a Quality Management System in place		
QC check sheets		
Works Procedures		
Daily Activity Reports		
Quality Control Plans		
Inspection & Test Plans		
Contract/Works Programmes		
Non-Conformance Reports		
Release Certificates		
Certificates of Conformance		
Data Books		
Requirements	**Y/N**	**General Comments**
2. Personnel Skills		
Number of Site Managers on staff		
Number of Site Supervisors on staff		
Number of Site Supervisors qualified to SAQCC		
Number of Coating Applicators on staff		
Number of Coating Applicators qualified to SAQCC		
Number of Coating Inspectors on staff		
Number of Coating Inspectors qualified to SAQCC		
Sufficient personnel to carry out the contract		

CAPABILITY CHECKLIST FOR CORROSION PROTECTION COATING APPLICATORS (Continued)		
Main Contractor:		
Company Representative Name and Title :	Date:	
Signature:		
Applicator:	Report No:	
Date of Evaluation:	Vendor Number:	
Scope: Quality Management System compliance, facilities, equipment, skills & general rating.		
Requirements	**Y/N**	**General Comments**
3. Safety		
Is there an appointed Safety Officer		
Is there a comprehensive Safety File		
Requirements	**Y/N**	**General Comments**
4. Facilities & Equipment		
Surface Preparation Equipment:		
Hand Cleaning:		
Wire brushes		
Scrapers		
Sandpaper		
Chipping hammers		
Power Cleaning: (electrical or pneumatic)		
Needle guns		
Power wire brushes		
Power sanders		
Abrasive Blast Cleaning:		
Compressors		
Blast pots		
Hoses and nozzles		
Water Cleaning:		
High Pressure cleaning equipment 68 - 680 bar (1 000 – 10 000 psi)		
Ultra-High Pressure cleaning equipment 2 000 – 2 500 bar range (30 000 – 36 000 psi)		

Requirements	Y/N	General Comments
5. Coating Application		
Brushes		
Rollers		
Conventional spray equipment		
Airless spray equipment		
CAPABILITY CHECKLIST FOR CORROSION PROTECTION COATING APPLICATORS (Continued)		
Main Contractor:		
Company Representative Name and Title :	Date:	
Signature:		
Applicator:	Report No:	
Date of Evaluation:	Vendor Number:	
Scope: Quality Management System compliance, facilities, equipment, skills & general rating.		
Requirements	**Y/N**	**General Comments**
6. Specialised Equipment		
Media removal equipment (conveyors etc)		
Vacuum cleaners		
Dehumidifying equipment		
Lighting equipment		
Ventilation equipment		
Requirements	**Y/N**	**General Comments**
7. Quality Control Testing Equipment		
Hygrometer		
Wet film thickness (WFT) gauges		
Depth profile gauge (or Testex tape)		
Surface temperature gauge		
Electronic dry film thickness (DFT) gauge		
Pin-hole detection equipment (wet sponge/high spark)		
Requirements	**Y/N**	**General Comments**
8. Relevant and comparable Case Histories		
Record of completed successful contracts		

Rating
Does the applicator qualify for rating 1, 2 or 3. Specifically with respect to item “4. Facilities and Equipment” in Annexure A “**REQUIREMENT CRITERIA FOR CORROSION PROTECTION COATING APPLICATORS**” sheet.

APPENDIX C: CLASSIFICATION AND SELECTION CRITERIA OF PROTECTIVE COATING SPECIFICATIONS

C.1 Classification of Corrosion Protection Systems

The classification of suitable corrosion protection systems for various applications and environments are as follows:

a) General coatings and applications for common applications (abbreviated as CPS)

b) Coating systems for surfaces in contact with the respective **Interior** environments (abbreviated as CPI)

c) Coating systems for surfaces in contact with the Exterior atmosphere, such as high-humidity, pollution, marine environment, etc. (abbreviated as CPE)and by the nature of the substrate and the operating conditions to which the coatings will be subjected to

d) ferrous, non-ferrous, non-metallic

e) operating temperatures

In the case of interior coatings, these are further divided into two groups:

f) Those intended for “normal” applications (abbreviated as. CPINA), which are coatings used in atmospheres that can be termed “normal”, i.e. non-aggressive in nature, i.e. internals of offices, service buildings, etc.

g) Systems in the second group (abbreviated as CPIA) are used for installations (and plant contained therein) where the atmosphere can be termed “aggressive” i.e. it contains high humidity, water, acidic, basic or marine vapours, etc.

In the case of outdoor corrosion protection systems, these may be exposed to high humidity, marine and polluted atmospheres, as well as ultra-violet light radiation. These coatings are classified as the CPE range.

C.2 Table/s defining substrates, operating conditions and descriptions of selection criteria for corrosion protection systems.

a) ISO 12944 corrosivity category C1 to C5-I and C5-M, high durability applies in the case of atmospheric exposure.

In instances such as concrete, masonry, wood, etc., where ISO 12944 does not cater for or specifies suitable coating systems, the approved Contractor and coating supplier is required to propose suitable systems offering “high durability” as defined in ISO 12944. The proposal is to be submitted in accordance with Section 4.3.2.

Table 1: Selection Criteria and Classification for Indoor Applications Type of Substrate	**Operating Conditions**	**Classification**
NORMAL CONDITIONS	**AGGRESSIVE CONDITIONS**	
Ferrous	Cold Surface: temperature < 80ºC	CPIN101C	CPIA101C
Hot Surface: 80ºC < temperature < 200ºC	CPIN102M	CPIA102M
Hot Surface: temperature > 200ºC	CPIN103H	CPIA103H
Non-Ferrous	Cold Surface: temperature < 80ºC	CPIN201C	CPIA201C
Zinc metal-sprayed and hot dip galvanised surfaces	CPIN202Z	CPIA202Z
Aluminium	CPIN203A	CPIA203A
Stainless Steels	CPIN204SS	CPIA204SS
Non-metallic	Gypsum and cement plaster ceilings and walls- Decorative	CPIN301	CPIA301
Gypsum and cement plaster ceilings and walls- Decorative with special hygiene requirements	CPIN302	CPIA302
Wood surfaces with special colour requirements	CPIN303	CPIA303
Wood surfaces to be varnished	CPIN304	CPIA304
Concrete floors-thin films (not exposed to oils, solvents or grease)-slight traffic areas and /or may require special hygiene requirements.	CPIN305	CPIA305
Concrete floors-medium films-exposed to moderate oils, solvents, grease, traffic areas	CPIN306C	CPIA306C
Concrete floors-ultra thick films-exposed to heavy chemicals and/or traffic areas	CPIN307C	CPIA307C

Table 2: Selection Criteria for Outdoor Applications Type of Substrate	**Operating Conditions**	**Classification**
NORMAL CONDITIONS	**AGGRESSIVE CONDITIONS**	
Ferrous	Cold Surface: temperature < 80ºC	CPEN101C / CPEA101C
Hot Surface: 80ºC < temperature < 200ºC	CPEN102M	CPEA102M
Hot Surface: temperature > 200ºC	CPEN103H	CPEA103H
Non-Ferrous	Cold Surface: temperature < 80ºC	CPEN201C / CPEA201C
Zinc metal-sprayed and hot dip galvanised surfaces	CPEN202Z	CPEA202Z
Aluminium	CPEN201A	CPEA201A
Stainless Steels	CPEN202SS	CPEA202SS
Non-metallic	Decorative system for concrete and cement rendering	CPEN301 / CPEA301
Impermeable system for concrete plinths	CPEN302	CPEA302
Wood surfaces with special colour requirements	CPEN303	CPEA303
Wood surfaces to be varnished	CPEN304	CPEA304
Colour coding requirements on HDPE, PVC, GRP, etc.	CPEN305	CPEA305