Eskom

NEC3 Professional Services

Short Contract (PSSC3)

A contract between **Eskom Holdings SOC Ltd (Reg No. 2002/015527/30)**

and

for **Professional Services for the Design of Station Dirty Dam Level Indicators**

Contents: Compiled in accordance with CIDB Standard for Uniformity in Construction Procurement (May 2010 amendments)

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Documentation prepared by:

C1 Agreements & Contract Data

C1.1 Form of Offer and Acceptance

Offer

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

Professional Services for the Design of Station Dirty Dam Level Indicators

The tenderer, identified in the signature block below, having examined the documents listed in the Tender Data and addenda thereto as listed in the Tender Schedules, 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 *Consultant* 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.

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

(*) If the work is to be paid for on a time charge basis, state "**Not applicable; paid on time charge basis**"

This Offer may be accepted by the Client by signing the form of Acceptance overleaf 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 *Consultant* in the conditions of contract identified in the Contract Data.

Signature(s) .....

Name(s) .....

Capacity .....

(Insert name and address of organisation)

For the tenderer: .....

Name & signature of witness .....

Date .....

Acceptance

By signing this part of this Form of Offer and Acceptance, the Client identified below accepts the tenderer's Offer. In consideration thereof, the Client shall pay the Consultant 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 Client 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 1 Agreements and Contract Data, (which includes this Form of Offer and Acceptance)

Part 2 Pricing Data

Part 3 Scope of Work: The Scope

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 Tender Schedules as well as any changes to the terms of the Offer agreed by the tenderer and the Client 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, which must be signed by the duly authorised representative(s) for both parties.

The tenderer shall within one week of receiving a completed copy of this Agreement, including the Schedule of Deviations (if any), contact the Client (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 copy of this document, including the Schedule of Deviations (if any) together with all the terms of the contract as listed above.

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

Signature(s) ....

Name(s) ....

Capacity ....

(Insert name and address of organisation)

for the *Client* Eskom Holdings SOC Ltd, Megawatt Park, Maxwell Drive, Sunninghill, Johannesburg

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

Note: If a tenderer wishes to submit alternative tender offers, further copies of this document may be used for that purpose, duly endorsed, 'Alternative Tender No. _____ '

Schedule of Deviations

Note:

1. To be completed by the Client prior to award of contract. 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 Client 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 Client 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 Client 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 *Consultant*	**For the *Client***
Signature		
Name		
Capacity		
On behalf of	*(Insert name and address of organisation)*	*(Insert name and address of organisation)*
Name & signature of witness		
Date		

C1.2 Contract Data

Data provided by the *Client*

Clause	Statement	Data
	General	
10.1	The *Client* is (Name):	**Eskom Holdings SOC Ltd (Reg No. 2002/015527/30), a juristic person incorporated in terms of the company laws of the Republic of South Africa**
	Address	**Registered office at Megawatt Park, Maxwell Drive, Sandton, Johannesburg**
	Tel No.	**[●]**
	Fax No.	**[●]**
	E-mail address	**[●]**
11.2(6)	The *services* are	**[●]**
11.2(7)	The Scope is in	**the document called 'C3.1 The Scope' in Part 3 of this contract.**
30.1	The *starting date* is.	**01 October 2026**
11.2(2)	The *completion date* is.	**31 March 2027**
12.2	The *law of the contract* is	**the Republic of South Africa**
13.3	The *period for reply* is	**1 week**
41.1	The *defects date* is	**52 weeks after Completion**
50.1	The *assessment day* is the	**25th of each month.**
50.5	The *delay damages* for late Completion are	**0.5% per day**
51.2	If a rate less than 0.5% per week of delay has been agreed	**The interest rate on late payment is: As applicable and published by the Major Banks in Republic of South Africa**
82.1	The Consultant's total liability to the Client for matters for which insurance is provided is limited to	**The total of the Prices**
	The Consultant's total liability to the Client for other matters is limited to	**Whatever the *Consultant* deems necessary including cover provided for payment of deductibles**
93.1	The *tribunal* is:	**arbitration.**

The *arbitration procedure* is	**the latest edition of Rules for the Conduct of Arbitrations published by The Association of Arbitrators (Southern Africa) or its successor body.**
The place where arbitration is to be held is	**South Africa**
The person or organisation who will choose the arbitrator if the Parties cannot agree a choice is:	**the Chairman for the time being or his nominee of the Association of Arbitrators (Southern Africa) or its successor body.**

The *conditions of contract* are the NEC3 Professional Services Short Contract (April 2013)[1] and the following additional conditions:

Z1 Cession delegation and assignment

Z1.1 The *Consultant* 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 *Consultant* 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 *Consultant* 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 *Employer* within two weeks of the Contract Date of the key person who has the authority to bind the *Consultant* on their behalf.

Z2.3 The *Consultant* 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 *Consultant* in writing.

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

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

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

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

[1] Can be obtained from Engineering Contract Strategies Tel 011 803 3008, Fax 011 803 3009 (see www.ecs.co.za).

Z3.4 Failure by the *Consultant* 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 those stated in core clause 91. The payment on termination includes a deduction of the forecast of the additional cost to the *Employer* of completing the whole of the *service*s in addition to the amounts due in terms of core clause 92.1.

Z4 Confidentiality

Z4.1 The *Consultant* 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 *Consultant*, enters the public domain or to information which was already in the possession of the *Consultant* at the time of disclosure (evidenced by written records in existence at that time). Should the *Consultant* disclose information to Others in terms of clause 23.1, the *Consultant* ensures that the provisions of this clause are complied with by the recipient.

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

Z4.3 In the event that the *Consultant* is, at any time, required by law to disclose any such information which is required to be kept confidential, the *Consultant*, 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 *Consultant* 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 *Employer*'s project works or any portion thereof, in the course of Providing the Services and after Completion, requires the prior written consent of the *Employer*. All rights in and to all such images vests exclusively in the *Employer*.

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*,* 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 Provision of a Tax Invoice. Add to core clause 51

Z6.1 The *Consultant* (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.

Z7 Notifying compensation events

Z7.1 Delete from the last sentence in core clause 61.3, "unless the *Employer* should have notified the event to the *Consultant* but did not".

Z8 *Employer's* limitation of liability

Z8.1 The *Employer's* liability to the *Consultant* for the *Consultant's* indirect or consequential loss is limited to R0.00 (zero Rand)

Z9 Termination: Add to core clause 90.1, at the second main bullet point, fourth sub-bullet point, after the words "against it":

Z9.1 or had a business rescue order granted against it.

Z10 Delay damages: Addition to secondary Option X7 Delay damages (if applicable in this contract)

Z10.1 If the *Consultant's* payment of delay damages reaches the limits stated in this Contract Data for Option X7 or Options X5 and X7 used together, the *Employer* may terminate the *Consultant's* obligation to Provide the Services.

Z10.2 If the *Employer* terminates in terms of this clause, the procedures on termination are those stated in core clause 91. The payment on termination includes a deduction of the forecast of the additional cost to the *Employer* of completing the whole of the *service*s in addition to the amounts due in terms of core clause 92.1.

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 *Consultant* or a third party, such party's employees, agents, or Subconsultants or Subconsultant'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 *Consultant*, or any member thereof in the case of a joint venture, or its employees, agents, or Subconsultants or the Subconsultant'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 *Consultant*'s obligation to Provide the Services if a Committing Party has taken such Prohibited Action and the *Consultant* 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 *Consultant*'s obligation to Provide the Services for this reason.

Z11.3 If the *Employer* terminates the *Consultant*'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 *Consultant* ensures that the Committing Party co-operates fully with an investigation.

Z12 Insurance

Z_12_.1 Replace condition of contract 81 with the following:

Insurance cover 81

81.1 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.

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

INSURANCE TABLE A

Insurance against	**Minimum amount of cover**	**For the period following Completion of the whole of the *services* or earlier termination**
Liability of the *Consultant* for claims made against him arising out of his failure to use the skill and care normally used by professionals providing services similar to the *services*	The Total of the Prices	
Liability for death of or bodily injury to a person (not an employee of the *Consultant*) or loss of or damage to property resulting from an action or failure to take action by the *Consultant*	**Loss of or damage to 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 **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 *Consultant* arising out of and in the course of their employment in connection with this contract	The amount required by the applicable law	

81.3 The *Client* provides the insurances in the Insurance Table B

INSURANCE TABLE B

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

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 *Consultant* or any other person against any and all liabilities which the *Consultant* 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 *Consultant* or any other person or the presence of the *Consultant* or that person or any property of the *Consultant* 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 *Consultant* or any other person, or the presence of the *Consultant* or that person or any property of the *Consultant* 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 *Consultant* 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 *Consultant*, 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 *Consultant* may perform Parallel Measurements and related control measures at the *Consultant*'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 *Consultant*'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 *Consultant* 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.

Data provided by the *Consultant* (the *Consultant's* Offer)

The tendering consultant is advised to read both the NEC3 Professional Services Short Contract (April 2013) and the relevant parts of its Guidance Notes (PSSC3-GN)[2] in order to understand the implications of this Data which the tenderer is required to complete. An example of the completed Data is provided on page 26 of the PSSC3 Guidance Notes.

Completion of the data in full is essential to create a complete contract.

10.1	The *Consultant* is (Name):	**[●]**
	Address	**[●]**
	Tel No.	**[●]**
	Fax No.	**[●]**
	E-mail address	**[●]**
	The *Consultant* offers to Provide the Services in accordance with the *conditions of contract* for an amount to be determined in accordance with the *conditions of contract*	
22.2	The name, job, qualifications and experience of *Consultant*'s key people are in	**[●]**
50.3	The *staff rates* are	

	Person or Job	**Unit of measure**	**Rate**
	People not stated here are at open market or competitive tendered rates		

11.2(5)	The offered total of the Prices is: [Enter the total of the Prices from the Price List. If all work is to be carried out on a time charge basis, enter 'Not Applicable".]:	**R[●]** **excluding VAT** **[in words]** **[●]** **excluding VAT**

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

C2 Pricing Data

C2.1 Pricing assumptions

Entries in the first four columns in the Price List are made either by the *Client* or the tendering consultant.

For each row:

- **If the *Consultant* is to be paid an amount for the item which is not adjusted if the quantity of work in the item changes, the tenderer enters the amount in the Price column only; the Unit, Quantity and Rate columns being left blank.**
- **If the *Consultant* is to be paid an amount for the item of work which is the rate for the work multiplied by the quantity completed, the tenderer enters the rate which is then multiplied by the expected quantity to produce the Price, which is also entered.**
- **If the work is to be paid on a time charge basis, only expenses should be included.**

All Prices are to be shown excluding VAT unless instructed otherwise by the *Client* in Tender Data or in an instruction the *Client* has given before the tenderer enters his Prices.

Costs incurred by the *Consultant* other than the listed expenses are included in the Rates and Prices and the *staff rates.* If expenses are paid at cost, then ‘at cost’ should be entered into the Rate column.

Delete or strike through unused rows.

If there is insufficient space in the Price List which follows, state in which document the Price List is contained.

C2.2 Price List

The Price List is as follows

Item no.	Description	Unit	No Off	Quantity	Rate	Amount
	ITEM 1					
1	**PRELIMINARIES AND GENERAL**					
1.1	**Health and Safety Compliance**					
1.1.1	**Personal Protective Equipment**					
1.1.1.1	Overall Trouser	Per Person	1	6		
1.1.1.2	Overall Jacket	Per Person	1	6		
1.1.1.3	Arc Flash Jacket	Per Person	1	2		
1.1.1.4	Arc Flash Trouser	Per Person	1	2		
1.1.1.5	Under Garment for Arc Flash	Per Person	1	2		
1.1.1.6	Safety Boots	Per Person	1	6		
1.1.1.7	Hardhat	Per Person	1	6		
1.1.1.8	Reflector Vest	Per Person	1	6		
1.1.1.9	Mask (Box of 20)	Box	6	6		
1.1.1.10	Safety Gloves	Per Person	2	6		
1.1.1.11	Safety Glasses	Per Person	2	6		
1.1.1.12	Ear Protection	Per Person	6	6		
1.1.2	**Medicals, Security and Safety Compliance**					
1.1.2.1	Safety file	Once Off	1	1		
1.1.2.2	Medicals - Entry	Per Person	1	6		
1.1.2.3	Medicals - Exit	Per Person	1	6		

1.1.2.4	Police Clearance Certification	Per Person	1	6		
1.1.3	**Safety Trainings and Competency**					
1.1.3.1	First Aid (Valid for 3 years)	No	1	1		
1.1.3.2	Basic Fire Fighting (Valid for 2 years)	No	1	1		
1.1.3.3	OHS Act (Valid for 2 years)	No	1	1		
1.1.3.4	Legal Liability (Once Off) (2 Off)	No	1	1		
1.1.3.5	Supervisory Safety (Valid for 2 years) (2 Off)	No	1	1		
1.1.3.6	Planned Job Observation (Once Off)	No	1	1		
1.1.3.7	HIRA (Valid for 2 years))	No	1	1		
1.1.3.8	Incident Investigator (Valid for 2 years)	No	1	1		
1.1.3.9	Evacuation Warden (Valid for 2 years)	No	1	1		
1.2	**Transport and Logistics**					
1.2.1	Travelling	Km	1	5280		
	Subtotal Item 1 (Preliminary & General) Carried to Summary					
	ITEM 2					
2	**C&I DESIGN RESOURCES**					
2.1	Electrical Engineer (5 years minimum with ECSA registration)	Hours	1	80		
2.2	C&I Engineer (3- 5 years minimum with ECSA registration)	Hours	1	100		
2.3	Civil Lead Design Engineer (5 years minimum with ECSA registration)	Hours	1	40		
2.4	Senior Draughtsman (5 years minimum)	Hours	1	80		
2.5	Structural Engineer (3-5 years minimum with ECSA registration)	Hours	1	80		
2.6	Land Surveyor (With surveying equipment) (3 years minimum)	Hours	1	8		
	Subtotal Item 2 (C&I Design Resources) Carried to Summary					

	ITEM 3					
3	**DOCUMENTATION & REPORTS**					
3.1	Documentation and Reports	Sum	1	1		
	Subtotal Item 3					
	FINAL SUMMARY					
ITEM 1	PRELIMINARIES AND GENERAL					
ITEM 2	C&I DESIGN RESOURCES					
ITEM 3	DOCUMENTATION & REPORTS					
	Total of the Prices (excluding VAT):					

C3: Scope of Work

C3.1 The Scope

1. Purpose of the *services*

Kusile Power Station requires professional services for the installation of Station Dirty Dam (SDD) level indicators. The installation of level indicators in the dirty dam recovery system aims to enhance level measurement accuracy, improve operational efficiency, and ensure seamless integration with the existing Distributed Control System (DCS). A suitably qualified *Consultant* is required to undertake the design of these level indicators. The *Consultant* shall assume professional design liability and accountability for all the designs that will be provided to the *Employer.*

2. Definitions

Term	Definition
Consultant	Service provider contracted for supplying specific service to Eskom, Kusile Power Station.
Employer	Any person appointed in writing by Eskom as the delegated *Employer* in terms of the provisions of the Act, (normally the Power Station Manager)
Services	Services on a project for which the Contractor is engaged
Subconsultant	Party employed by the Consultant for specialized work (i.e., Electrical, Mechanical and Civil and Structural installations)
KKS	Is a code used to clearly identify systems and components in a power plant according to process functions, points of installations and structures. "Kraftwerk-Kennzeichen-System (KKS)"
Plant	Any structure, machinery, apparatus, or equipment which does not fall within the scope of the operating regulations for high Voltage systems, and excludes, mobile, portable lifting equipment, domestic circuits, and tools.
Controlled Disclosure	Controlled disclosure to external parties (either enforced by law, or discretionary).

3. Abbreviations

Abbreviation	Explanation
C&I	Control and Instrumentation
DCS	Distributed Control System
GA	General Arrangement
HMI	Human Machine Interface
IP	Ingress Protection
ISO	International Organisation for Standardisation
ITP	Inspection Test Plan
JB	Junction Box
NCR	Non-Conformance Reports
NGL	Natural Ground Level

Abbreviation	Explanation
OEM	Original Equipment Manufacturer
OTS	Operating Technical Specification
QA	Quality Assurance
QC	Quality Check
QCP	Quality Control Plan
QMS	Quality Management System
SANS	South African National Standard
SOW	Scope of Work

4. Roles and Responsibilities

Consultant

The Consultant shall ensure the following:

a) Review the contract in detail to fully understand the design scope, technical requirements, and deliverables.

b) The Consultant shall complete the scope of work as outlined in this document.

c) The Consultant shall provide proof of competence of previous works conducted like the requested services.

d) The Consultant shall submit both electronic and hard copy versions of all required documentation e.g. design reports, drawings (editable soft copy of drawings) and calculations.

e) The Consultant shall submit all relevant and necessary documentation requested by the Employer e.g. compliance certifications etc.

f) The Consultant shall observe all relevant regulations, standards of professional conduct and industry norms in relevant South African National Standards, and standards recommended by relevant professional associations.

g) The Consultant shall demonstrate skills and care generally used by professionals providing services like the required services.

Employer

The Employer shall ensure the following:

- Provide clarity on the scope of work to the Consultant as and when required.
- Conduct design reviews and acceptance of the Consultant’s designs.
- Ensure that the Consultant signs the contract and understands the scope, deliverables, timelines, and payment terms.
- Provide all necessary project documentation, including technical specifications, design guidelines, and any regulatory requirements.
- Ensure compliance with legal, safety, and environmental regulations.

5. Description of the *services*

5.1 Employer's design

5.1.1 Executive Overview

The Station intends to appoint a suitably qualified external Consultant for engineering professional services to undertake the design of Station Dirty Dam level indicators to meet the end-user's needs. The Consultant shall take full liability for all their designs and Services provided to the Employer.

The work includes but not limited to the following:
Architectural design
- Schematic designs and design concepts

Site investigations
- Surveys
- Geotechnical investigations
- Underground services detection

Civil and Structural design
- Structural design for equipment civil support structure

Electrical designs
- Small power and lighting
- Power Supply
- Earthing and lightning protection

Control and Instrumentation Design
- Instrumentation equipment design

5.1.2 Codes and Standards

The scope of Services shall be done in accordance with SANS standards, prescribed Eskom standards and any other applicable codes of practice, specifications, and regulations. Reference to standards or manuals of any society, organization, or association, whether such reference is specific or by implication, shall mean the latest standard, manual, or code in effect at the time of the contract award. The Consultant adheres to the latest editions of the listed standards (where applicable) and normative references. If there is any contradiction within the codes and standards, the Consultant liaises with the Employer for clarification. The Consultant notes that the provided lists are not all-inclusive and do not relieve the Consultant from complying with all applicable design codes.

Table 1: Civil & Structural Standards

Definition	Explanation
Applicable Standards	
SANS 10313	Protection of structures against lightning
SANS 2001 Series	Standardised Specification for Construction Works
SANS 1200 Series	Standardised Specification for Civil Engineering Construction ‘
SANS 3001 Series	Civil Engineering Test Methods

Table 2: Electrical Standard

Definition	Explanation
Applicable Standards	
240-55714363	Coal Fired Power Stations Lighting and small power installation standard
240-93576498	KKS Coding Standard
240-56227443	Requirements for Control and Power Cables for Power Stations Standard

240-56356396	Earthing and Lightning Protection Standard
OHS Act 85 of 1993	Environmental Regulations for Workplace, 1987 (Section 3, Lighting)

Table 3: C & I Standards

Definition	Explanation
Applicable Standards	
240-55714363	Coal Fired Power Stations Lighting and small power installation standard
240-93576498	KKS Coding Standard
240-56227443	Requirements for Control and Power Cables for Power Stations Standard
240-56356396	Earthing and Lightning Protection Standard
OHS Act 85 of 1993	Environmental Regulations for Workplace, 1987 (Section 3, Lighting)

Table 4 Configuration Management standards

Definition	Explanation
Applicable Standards	
240-131050729	Hybrid Coding Standard
240-109607732	Eskom Plant labelling Abbreviation Standard
240-109607736	Eskom KKS Key part Standard
240-86973501	Drawing Standard
 240-76992014	Technical Document and Record Management
240-51093273	Engineering Change Management or Control

5.1.3 Site Location

The Kusile Power Station site is located approximately 37km northwest of eMalahleni in the Mpumalanga Province. The site is accessed from the R686 road between highways, N4 and N12. The *Employer* has identified potential sites for the new building facilities, for consideration. The *Consultant* shall be responsible for evaluating the suitability of the sites for the intended Services and Works. The *Consultant* shall identify alternative sites, where deemed necessary, and the building sites shall suit project objectives and requirements.

5.2 Scope of Work

5.2.1 Description of the Services

The scope of Services entails the following:
The *Consultant* provides engineering design services with the Engineering Profession Act, 46 of 2000, Guideline for Professional Fees: Scope of services and Tariff of Fees for Registered Persons:

- Design of the water level indicator instrumentation
- Design of the cantilever civil support structure
- Power supply and lighting

The *Consultant* appoints and manages his *Subconsultants* for the scope of Services. The *Consultant* co-ordinates the work of discipline specific design *Subconsultants* as relevant and satisfies the relevant requirements of the National Building Regulation, Act 103 of 1977, amongst others. The *Consultant* co-ordinates interfaces to ensure design integration for all components of the Works.

Inception

The *Consultant* liaises with the project team and stakeholders to assess and establish the user needs and client requirements.

The *Consultant* establishes the need for specialist advice, studies, tests, investigations, and surveys relevant to the scope of Services, including the appointment of such specialist resources and services.

The *Consultant* performs and co-ordinates all studies, tests and surveys required for the scope of works. The Consultant collates outputs of specialist's studies, surveys, and advices on implications of the findings. The findings are reported and communicated to the Employer.

The *Consultant* assesses the existing infrastructural elements to ensure integration between existing and proposed new works.

The *Consultant* obtains, investigates, and collates available data and drawings relating to the scope of Services.

5.2.2 Concept and Viability

a. The *Consultant* develops the concept designs and related documentation in accordance with the scope requirements. The *Consultant* ensures conformance with the user and regulatory requirements as well as the relevant standards. A cost benefit analysis for each concept design option is performed by the *Consultant*.
b. The *Consultant* manages and integrates the concept documentation for presentation and submission to the *Employer* for approval.
c. The *Consultant* conducts design reviews in accordance with the *Employer's* Design Review Procedure, 240-5311685 for his designs in collaboration with the project team.

d. The *Consultant* establishes the life cycle and project related cost estimates associated with his designs.

5.2.3 Detail design development

a. The *Consultant* develops the detail designs and related documentation as per the scope requirements. The *Consultan*t submits his detailed designs to the *Employer* for acceptance.

b. The *Consultant* incorporates the Employer's detailed requirements into the design.

c. The *Consultant* incorporates his *Sub-Consultant's* designs and requirements into the design.

d. The *Consultant* performs temporary and permanent design changes necessary to complete his designs. The *Consultant* submits the design changes to the *Employer* for review and acceptance.

e. The *Consultant* conducts design reviews in accordance with the Employer's Design Review Procedure, 240-5311685 in collaboration with the project team.

f. All design reports, working or construction drawings prepared by the *Consultant*, are signed off by an ECSA Professionally registered Technologist/Engineer who takes full professional accountability and liability for the designs.

g. The *Consultant* prepares detailed specifications for all components of Works for inclusion in the construction/installation scope of works. The *Consultant* defines amongst others, the performance, quality, operating and maintenance requirements etc. of the required services.

h. The *Consultant* prepared detailed construction/installation cost estimates.

i. The *Consultant* prepares cost estimates of proposed variations for the Work.

5.2.4 Additional services of the project

a. The *Consultant* reviews design data prepared by others, that interface or may impact his designs, for purposes of delivering sound engineering designs.

b. The *Consultant* performs all required topographical and environment surveys, analyses, tests and investigations necessary to carry out the Services.

c. Preparing record drawings related to alterations to *Works*.

5.2.5 Boundary of the Services

The extent of the engineering professional services includes the following:

a. The *Consultant* shall design the following but not limited to:

- Radar Water Level Indicators Instrumentation
- Power Supply and Lighting
- Cantilever Civil Support Structure

b. The *Consultant* shall specify the required equipment requirements and specifications for their designs. Spatial design requirements shall be considered in the designs.

5.2.6 Key Professional Personnel required for the services (suggestion)

The key project resources that are required in the management and delivery of the project include the following but not limited to:

- Structural or Civil Engineer/ Technologist, professionally registered with ECSA
- Geotechnical engineer, professionally registered with ECSA
- Electrical Engineer/ Technologist, professionally registered with ECSA

- Control and Instrumentation Engineer/Technologist, professionally registered with ECSA with related experience.
- Professional Land Surveyor professionally registered with the SAGC

3.3. Engineering Scope

3.3.1 Civil & Structural Scope

- The *Consultant* shall conduct site visits and assessments of the site where the support structure for the level indicators is required. As part of the assessment, the *Consultant* will review as-built drawings and geotechnical reports. The *Consultant* must conduct their own geotechnical analysis and surveys, for the purpose of their designs, and must not rely solely on Eskom's documents for detailed designs.
- The *Consultant* conducts a geotechnical investigation to characterize the soil condition/properties of the proposed project site, to permit acceptable designs and construction of the Works. The geotechnical investigation must be used in the design of the required infrastructure. Any findings that may have significant impact on the Contractor's design must be discussed with the Employer.
- The *Consultant* conducts topographical and environmental surveys necessary to complete his designs for the proposed project sites. The survey must be used in the design of the required infrastructure. Any findings that may have significant impact on the Contractor's design must be discussed with the Employer.

3.3.2 Electrical Scope

The scope of Services includes the following:

a. Electrical Supply:

- Provisions are made for sufficient power supply to meet the demands of the level indicator equipment.
- The *Consultant* coordinates with electrical *Contractors* to establish designated supply points near designated plant area.

b. Earthing Systems:

- Implementation of effective earthing systems to protect personnel and equipment from electrical faults and lightning strikes.
- Utilization of high-quality materials and techniques to ensure proper grounding throughout the facility.

c. Cable Routing:

- Planning and implementation of efficient cable routing strategies to minimize interference, maximize reliability, and ensure ease of maintenance.
- Utilization of cable racks, trunking, conduits, and appropriate labelling to organize and protect electrical cables.

d. Design and Planning:

- Develop detailed electrical plans in coordination with engineering teams to ensure seamless integration with buildings modifications.

3.3.3 Control & Instrumentation Scope

3.3.3.1 Pre-Installation Activities

a. Site Survey & Assessment:

- The *Consultant* must conduct a site inspection to determine suitable mounting locations
- The *Consultant* must assess proposed structural support design and environmental conditions (e.g. humidity, temperature, interference) within a proposed project site.
- The *Consultant* must identify existing equipment infrastructure and integration points.

b. Engineering & Design:

- The *Consultant* must develop engineering drawings and mounting arrangements.
- The *Consultant* must verify power supply requirements and communication protocols (e.g. HART).
- DTM files to be given for configuration through the DCS.
- The Consultant must ensure radar level indicators compatibility with dirty dam conditions (e.g., slurry).

There is an existing Level Monitoring System in the station's dirty dam pump house inside Kusile Power Station. The system is based on the pressure transmitters which is challenged with inaccurate readings. The modifications to be done under the project may impact the existing system, which will be de-commissioned after completion of Radar Level Indicator project. The Level Monitoring System covers real-time monitoring, data logging, and integration with the Distributed Control System (DCS).

The following are the Consultant's duties:

The Consultant designs in detail the below listed systems to ensure monitoring, operation, and administration capability from the new level monitoring system. In cases where newer technology is available which the *Consultant* proposes for use, the *Consultant* states this clearly in the design:

a. Radar Level Indicator System will be used for monitoring of water levels in the dirty dam. The system is to be integrated with the existing DCS for real-time data visualization and control.

b. A communication interface for transmitting level data to the control room. This will be based on the industrial communication protocols such as HART.

c. An alarm system configuration that triggers alerts for high and low-level thresholds, integrated into the existing DCS alarm management system.

d. A configuration for data logging and reporting system for historical analysis and trend monitoring.

e. Network infrastructure for integrating all sub-systems (Switches, cabling, etc.).

f. Familiarizes themselves with the existing level monitoring system in the areas where modifications will be made under this project.

g. Identifies and collects all drawings required to perform the work.

h. Ensures that changes to the existing installations do not lead to non-conformance of the installations to applicable design standards, e.g., ensuring proper sensor positioning for accurate level detection.

i. Prescribes construction/installation methodology for their design to maintain adherence.

Sub-Consultant Services

- The *Consultant* submits the name of each proposed *subconsultant* to the *Employer* for acceptance. The *Consultant* does not appoint a proposed *Subconsultant* until the *Employer* has accepted him.
- The *Consultant* submits the proposed conditions of contract for each subcontract to the *Employer* for acceptance unless the NEC contract is proposed, or the *Employer* agreed that no submission is required. The *Consultant* does not appoint a *Subconsultant* on the proposed *subconsultant* conditions submitted, until the *Employer* has accepted him.

3.3.4 Engineering and the Consultant's Design

3.3.4.1 Employer's design

The extent of the *Employer's* design is as described in the *Employer's* drawings. The *Employer* will make available all the available and required native files to the *Consultant* to enable completion of his designs, design reviews and updating of the *Employer's* drawings.

Parts of the Works which the Consultant is to design

Responsibility for Design

a. The *Consultant* provides designs that are fit for purpose and in accordance with relevant standards and regulations.

b. The *Consultant* assumes full design accountability and liability for his designs.

c. An ECSA Professionally Registered Engineer signs off all designs, design reports and construction design drawings, prepared by the *Consultant* and his *Subconsultant.*

d. The *Consultant* is responsible for the design of all temporary Works required for implementation.

e. Where the *Consultant* requires additional information to design certain components of the Works, the *Consultant* notifies the *Employer* of the requirement/s timeously.

f. The *Employer* may review, but will not accept, the *Consultant's* designs if there is non-compliance discovered. The responsibility to ensure compliance remains with the *Consultant.*

g. All changes required for construction or manufacturing, that impact or change the *Employer's* design is redlined on drawings by the *Consultant*. The redline drawings include notes for clarification purposes. The *Consultant* submits the redlined drawings to the *Employer* for acceptance.

h. The *Consultant* is mandated in terms of Construction Regulations 2014: Duties of Designer, 6(1) g to fulfil the duties described therein or the detailed designs done by the *Consultant*. Any risks associated with the *Consultant's* design is highlighted to the *Employer* together with mitigation measures.

i. The *Consultant* submits design reports, for his all his designs, to the *Employer* for his acceptance. Design reports to include the following as a minimum:

- Design philosophy
- Assumptions made with regard to the design.
- Design criteria/ parameters used.
- List of applicable codes and literature that was used in the design.
- Design results and calculations for all elements.
- Software input and output files including design models.
- Material used; and
- Submit Operation and Maintenance Manuals, where applicable.

j. Submit multidisciplinary detailed design drawings for the full scope of work, capturing all necessary details.

3.3.5 System Interface & Design Integration

a. The *Consultant* is responsible for all system interfaces which form part of the project scope. The *Consultant* caters for all the identified interfaces, taking into consideration all packages required. The *Consultant's* design considers all existing services ensuring no clashes with existing infrastructure.

b. The *Consultant* is responsible for all interfaces that form part of the scope and shall cater for these in his design.

c. The *Consultant* notes that the project areas have existing services. The *Consultant* shall avoid any clashes with existing services as well as cater for this in this design.

3.3.6 Other Requirements of the Consultant's Design

Use of the Consultant's design

- The *Consultant*, as specified in this Works Information, supply all design documentation for the Works to the *Employer.* The *Consultant* notes that all design documentation to the *Employer* become the Property of the *Employer* upon completion of the Works. The *Consultant* notes that the *Employer* has total rights to use the *Consultant's* design, as the *Employer* requires.

3.3.7 Documentation Requirements

- The *Consultant* ensures that the Technical Documents and Records Management Work Instruction, 240-76992014 is adhered to for all documentation requirements. The *Consultant* is responsible for the compilation and supply of all documentation during the various project stages. The *Consultant* makes provision in their programme for the submission of design documentation. For consistency, it is important that all documents used within the project follow the same layout, style and formatting as described in the Technical Documents and Records Management Work Instruction, 240-76992014.

- Each revision of a document or drawing shall be accompanied with a list of comments made by the *Employer* on previous revisions, if applicable. The response/corrective actions taken by the Consultant to be recorded in a revision table contained in each drawing/document.
- Document and drawings to indicate the *Employer's* unique identification number allocated by the *Employer.* The *Consultant* may also have his own internal document or drawing number on the document or drawing.

Document Identification

The Consultant shall ensure that documents have the following minimum attributes on the cover page:

- Document title
- Document unique identification number (Eskom number)
- Consultant document number, if applicable
- Document status
- Revision number
- Document type
- Document revision table/history
- Page number on the footer
- Document author/authorizer
- Document originator

The following additional attributes are important for technical documents:

- Package/System name/subsystem name

- Unit number
- Consultant name
- Contract number
- Plant identification codes

Format and Layout of Documents

For consistency, it is important that all documents used within a specific domain follow the same layout, style, and formatting standard.

a. Layout and Topography

Every document should comply with the following font specifications:

- Font color: Black
- Main Headings Font Type: Arial, Bold, Capital Letters
- Main Heading Font Size: 12pt
- Subheadings Font Type: Arial, Bold, Title Case
- Subheadings Font Size: 11pt
- Body Font Type: Arial, Sentence Case i.e., only the first letter of the first word is a capital letter
- Body Text Font Size: 11pt
- Line Spacing: 1.5 line spacing
- Margins: Standard
- Alignment: Full justification to be used
- Paragraphing: One line skip between paragraphs
- Pagination: Centered page numbers (about 0.5 inches from bottom)
- Indentations: Standard tab for all paragraphs (about 0.4 to 0.5 inches)

Document Headers

The header should include the project name, document title, document number, revision number and page number.

Naming of files

The Consultant complies with the Eskom standard for naming documentation files. The standard is as follows:

- For documents that have an approval date and signature; (YYYYMMDD_DocType_DocumentTitle_UniqueIdentifier_Revision.FileExtention)

- For documents that do not necessarily require the ‘Approved Date’ and ‘Revision & Versioning’, use the date of update:

  (YYYYMMDD_DocType_DocumentTitle_UniqueIdentifier_Revision.FileExtention)

Documentation Submissions

The *Consultant's* program to allow a minimum of 21 days for mailing, processing, and review of drawings and data by the *Employer*. All documents and records must be submitted and managed according to the Project/Plant Specific Technical Document and Records Management Procedure, 240-76992014 as well as the Generation (Gx) Projects Documentation Deliverable Requirements Specification, 240-65459834. The *Employer* shall ensure that the *Consultant* is provided with the latest revisions of the mentioned documents.

Information Requirements

The *Employer* requires information and data from the *Consultant* for management and execution of the contract. The *Consultant* shall supply all information required in terms of the contract including, whether specified in the contract, all information necessary for:

- Design reviews and the interface management of the works,
- Quality assurance and control,

The scope of supply of information from the Consultant, to include the below document list, if applicable:

Typical Document Requirement List	
Document Group	Description of document type (Includes information data sets)
General	• Equipment arrangement drawings • Piping & Instrument Diagram (P&ID's) Equipment list. • Isometric drawings • Drawings and data for all equipment and material
Civil and Structures	• Layout Drawings • Elevation and section drawings Structural drawings Architectural drawings • Structural analysis and design report Foundation drawings • Structural support drawings • Access Platform/Walkway drawings • Professional Engineering Certificates from Professionally Registered Engineers
Logistic Support	• Maintenance concept • Plant maintenance documentation ISI plan/program • Spare parts assessment Plant RAM analysis • Equipment access and removal paths assessment Fault finding diagrams
Safety & Protection	• Fire hazard analysis Waste management plan

Design Analyses	• Reliability model and Flow dynamics analysis • Thermo-hydraulic analysis Pipe Stress Analysis Maintainability analysis FMECA/FMEA analysis HAZOP analysis • 3D model interference checks
Electrical	• Electrical load list Circuit list Raceway list • Single line diagram Protection schematic diagram • Electrical load flow and fault studies report Cable block diagrams • Cable schedule • Cable routing and cable racking layout diagrams Cable termination diagrams • EMC and earthing standards report Earthing layout diagrams • Lighting layout drawings
Control and Instrumentation	• Alarm and set-point schedule • Instrument schedule Instrument data sheets Mechanical hook-up drawings Electrical hook-up drawings Cable Schedule • Termination Schedules • Junction Box GA and Internal Layout • Junction Box and Instrument location drawings Instrument Stand GA • Maintenance Manuals and procedures Operating and Control Philosophies Functional Logic Diagrams • Field Device calibration certificates Level Measurement installation report

3.3.8 Drawings

The creation, issuing and control of all Engineering Drawings shall be in accordance with the latest revision of the Engineering Drawing Standard, 240-86973501 - to be supplied as part of the enquiry documents. Drawings issued to the *Employer* will be a minimum of one hardcopy and an electronic copy. The *Consultant* is required to submit drawings electronically in both native CADD format and PDF format. Drawings issued to the *Employer* may not be “Right Protected” or encrypted.

Submission of the Consultant’s Design

a. The *Consultant* submits all design documentation to the *Employer* for review. The documentation submitted to include all design elements i.e., drawings, calculations, reports etc.

b. The *Employer* conducts a review of the design documentation. The *Employer* reserves the right to review any design in detail, where deemed necessary. The *Employer* accepts no accountability and liability due to the review of any designs.

c. The *Consultant* is the Design Authority as defined in the Design Review Procedure, 240- 53113685 for the project scope. The *Consultant* is responsible for following this design procedure and conducts all the design reviews as specified in this procedure.

d. The following process will be followed for submission of documents:

- The *Consultant* submits the documents/drawings to the *Employer.*
- The *Employer's* representative distributes the documents/drawings to all relevant parties within the *Employer's* project team to review.
- The *Employer's* project team reviews the documents/drawings and submit all comments or inputs to the *Employer's* representative. The *Employer's* representative submits the review comments to the *Consultant* for consideration.
- If the *Employer* finds major deficiencies in the submitted documents/drawings, the *Consultant* revises the documents/drawings and resubmits to the *Employer's* representative.
- The *Employer* reviews the documents/drawings and if no major deficiencies are found, the *Consultant* organises a review session.
- The *Employer* and the *Consultant* conduct a review.
- If any fundamental errors are found in the review or further actions are required, the *Consultant* records all concerns raised and revises the documents/drawings accordingly.
- The *Consultant* organises a review session once all documents/drawings have been revised.
- If no fundamental errors are found in the documents/drawings during the review session, the *Consultant* compiles the review minutes/report and submits to the *Employer.*
- The *Employer's* project team reviews the *Consultant's* report/minutes. If the report/minutes are not acceptable, the *Consultant* revises the report/minutes and resubmits to the *Employer*.
- The *Employer* accepts the *Consultant's* documents/drawings once the report/minutes are accepted by the *Employer's* project team.

Acceptance of the Consultant's Design

The *Consultant* is to implement the following for design acceptance:

a. The *Employer* accepts the *Consultant's* design upon completion of reviews by the project team.

b. The *Consultant* stamps, dates and signs his design drawings, to signify approval of his designs.

c. The *Consultant* informs the *Employer* in writing of any deviation in the *Consultant 's* drawings, from the scope requirements.

Deliverables

The *Consultant* is required to provide professional engineering services. The *Consultant* submits the following deliverables to the *Employer* for acceptance:

a. Geotechnical investigation and survey reports

b. Detailed design reports for the entire project scope. Reports to be signed off by ECSA Professionally Registered Engineers /Technologists

c. Approved working drawings for the entire project scope.

d. Design drawings to be signed off by ECSA Professionally Registered Engineers

e. Technical Specification for construction scope of *Works*

f. Bill of Quantities for entire project scope

g. All construction related documentation as detailed in this scope document.

5.2 Quality management

System requirements

The *Consultants* shall comply with ISO 9001 Quality Management System and category 4 of Eskom Supplier Quality Management Specification QM 58/ 240-105658000.

Information in the quality plan

The *Consultant* shall submit objective evidence of a developed and implemented QMS that complies with ISO 9001 or any applicable standard of quality management system (the latest applicable revision). The following documents (approved copies) shall be submitted:

Quality Management System Requirements ISO 9001

- Quality Method statement based on ISO 9001
- Quality Policy Approved by top management.
- Quality Objectives Approved by top management
- Documented information for defined roles, responsibilities and authorities
- Documented information for Control of Externally Provided Processes, Products and Services

5.3 Resolution of disputes by adjudication

If a dispute cannot be settled between the *Client* and the *Consultant* within 30 days of notification by either Party to the other, then either Party may refer the dispute for decision by an Adjudicator before any reference of the matter to the *tribunal* in terms of this contract.

The Adjudicator is chosen by the Party wishing to refer a matter to him from the ICE-SA List of NEC Adjudicators[3]. The Parties conclude a NEC3 Adjudicator's Contract (April 2013) with the chosen Adjudicator within 7 days of the selection.

The matter is then referred and decided by the chosen Adjudicator as though the matter had been referred to him in accordance with Option W1 Dispute Resolution procedures in the NEC3 Professional Services Contract, April 2013, (PSC3). The chosen Adjudicator acts in the role of the *Adjudicator* in PSC3 and the Parties in this contract act as though they were the *Employer* and the *Consultant* respectively in Option W1 of the PSC3 (April 2013).

5.4 Meetings

Regular meetings of a general nature may be convened and chaired by the *Employer's Agent* as follows:

Title and purpose	Approximate time & interval	Location	Attendance by:
Risk register and compensation events	To be confirmed post contract award during the kick-off meeting	**Kusile Power Station / MS Teams**	*Employer's Agent, Project Multi-Disciplinary Team, Consultant and Sub-Consultants*
Overall contract progress and feedback	To be confirmed post contract award during the kick-off meeting	**Kusile Power Station / MS Teams**	*Employer's Agent, Project Multi-Disciplinary Team, Consultant and Sub-Consultants*

[3] ICE-SA is a joint Division of SAICE and the ICE (London). See www.ice-sa.org.za for the List of NEC Adjudicators.

5.5 Use of standard forms

NEC3 PSSC3 standard forms to be used by the *Consultant* in the administration of the contract.

5.6 Invoicing and payment

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

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

Name and address of the Contractor and the Service Manager;
The contract number and title;
Contractor's VAT registration number;
The Employer's VAT registration number 4740101508;
Description of service provided for each item invoiced based on the Price List;
Total amount invoiced excluding VAT, the VAT and the invoiced amount including VAT;
The invoice is to be submitted to invoiceseskomlocal@eskom.co.za once confirmed with the payment certificate.

6. Requirements for the programme

General
This contract shall follow ECC contract, Clause 3-Time.
The Contractor submits a Level 4 Microsoft project or Primavera P6 programme for the project manager acceptance.

- Discipline Speciality Program (Level 4)

This is the execution Schedule, also called a Project Working Level Schedule. Level 4 is the detailed working level schedule, where each schedule is an expansion of part of a Level 3 schedule and is established within the integrated project schedule.

This programme typically represents day-to-day tasks which are work unit based and become summarised in the Level 3 activities showing the following:

- The starting date, access dates, key dates, and planned completion date.
- The order and timing of all tasks which the contractor plans to do in order to provide the works
- Critical path
- Float
- Time risk allowances, which shall include weather allowance.
- Health and safety requirement

Computerised Planning and Reporting
The programme shall be submitted in MS Project/ Primavera P6 format and the basis of schedule to support the schedule, showing inclusion and exclusions.

Project Calendar
The project calendar includes working days (Monday to Friday) and excludes non-working days which are weekends (Saturday to Sundays) and Public Holidays. If and when the Contractor deems any period in a calendar year as a non-working day, e.g. pay weekends, etc. such shall be declared up front and agreed with the Project Manager in the first programme for acceptance by the Project manager. Failure to declare these days shall render any later declaration as null and void and the Contractor shall provide the services to comply with the accepted first programme.

Additional Programme Requirements

The programme layout takes into account the Key Dates provided in the Contract and the Work Breakdown Structure (WBS).

The following levels of programme are to be used for this project for dynamic integrated project control:

- Management level programme (Level 1)
- Project level programme (Level 2)
- Control level programme (Level 3)
- Discipline speciality programme (Level 4)

Submission of Revised Programmes
The Contractor submits one electronic copy in MS Project (MPP) of the revised programme to the Project Manager for acceptance. The contractor shows on each revised programme.

- The actual progress achieved on each operation and the timing of the remaining works
- The effects of the implemented compensation event
- How the contractor plans to deal with any delay and to correct the notified defects
- Any other changes that the contractor proposes to make to the acceptance programme.

Bi-Weekly Progress reporting
A bi-weekly status report is submitted by the Contractor to the Project Manager. The Contractor submits updated programme bi-weekly or as instructed by the Project Manager.

Contents of a weekly report will include the following items:

- The updated MS Project/ Primavera P6
- Programme summary narrative (Basis of schedule)
- Progress and performance summaries
- Key Milestone status