



NEC3 Engineering and Construction

Short Contract (ECSC3)

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

and

for **Satellite & Thermal Stability Monitoring at Kriel Power Station for a period of 12 months**

| Contents: | Compiled in accordance with CIDB Standard for Uniformity in Construction Procurement (May 2010 amendments) | Page No. |
|--|--|-----------------|
| Part C1 Agreements & Contract Data | | |
| C1.1 Form of Offer and Acceptance | | [•] |
| C1.2 Contract Data provided by the <i>Employer</i> | | [•] |
| C1.2 Contract Data provided by the <i>Contractor</i> | | [•] |
| Part C2 Pricing Data | | |
| C2.1 Pricing assumptions | | [•] |
| C2.2 Price List | | [•] |
| Part C3 Scope of Work | | |
| C3.1 Works Information | | [•] |
| Part C4 Site Information | | [•] |

Documentation prepared by: Neo Muthavhine

C1 Agreements & Contract Data

C1.1 Form of Offer and Acceptance

Offer

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

Satellite & Thermal Stability Monitoring at Kriel Power Station for a period of 12 months

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 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.

| | |
|---|------|
| 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) [●] | |

This Offer may be accepted by the Employer 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 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: _____

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 1 Agreements and Contract Data, (which includes this Form of Offer and Acceptance)
- Part 2 Pricing Data
- Part 3 Scope of Work: Works Information
- Part 4 Site Information

and drawings and documents (or parts thereof), which may be incorporated by reference into the above listed Parts.

Deviations from and amendments to the documents listed in the Tender Data and any addenda thereto listed in the Tender 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, 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 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 copy of this document, including the Schedule of Deviations (if any) together with all the terms of the contract as listed above.

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 tender offers, further copies of this document may be used for that purpose, duly endorsed, 'Alternative Tender No. _____'

C1.2 Contract Data

Data provided by the *Employer*

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

1. Please read the relevant clauses in the NEC3 Engineering and Construction Short Contract (April 2013) (ECSC3)¹ before you enter data. The number of the principal clause is shown for most statements however other clauses may also use the same data.
2. Where the following symbol is used “[●]” - data is required to be inserted.]

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

| Clause | Statement | Data |
|----------------|--|---|
| General | | |
| 10.1 | The <i>Employer</i> is (Name): | Eskom Holdings SOC Ltd (reg no: 2002/015527/30), a state owned company incorporated in terms of the company laws of the Republic of South Africa |
| | Address | Registered office at Megawatt Park, Maxwell Drive, Sandton, Johannesburg |
| 10.1 & 14.4 | The <i>Employer's</i> representative to whom the <i>Employer</i> in terms of clause 14.4 delegates his actions ² is (Name): | Neo Muthavhine |
| | Address | Eskom Kriel Power Station |
| | Tel No. | Private Bag X5009, Kriel, 2271, Republic of South Africa |
| | Fax No. | 017 615 2843 |
| | E-mail address | 086 661 2690 |
| 11.2(11) | The <i>works</i> are | Satellite & Thermal Stability Monitoring at Kriel Power Station for a period of 12 months |
| 11.2(13) | The Works Information is in | the document called 'Works Information' in Part 3 of this contract. |
| 11.2(12) | The Site Information is in | the document called 'Site Information' in Part 4 of this contract. |
| 11.2(12) | The <i>site</i> is | Kriel Power Station |
| 30.1 | The <i>starting date</i> is. | 01 July 2021 |
| 11.2(2) | The <i>completion date</i> is. | 30 June 2022 |
| 13.2 | The <i>period for reply</i> is | 2 weeks |
| 40 | The <i>defects date</i> is | N/A |
| 41.3 | The <i>defect correction period</i> is | N/A |

¹ Available from Engineering Contract Strategies Tel 011 803 3008, Fax 086 539 1902 or www.ecs.co.za

² Except those actions which can only be done by the *Employer* as a Party to the contract.

| | | |
|---|---|--|
| 50.1 | The <i>assessment day</i> is the | 25 th of each month. |
| 50.5 | The <i>delay damages</i> are | N/A |
| 50.6 | The retention is | 0% |
| 51.2 | The interest rate on late payment is | [•]% |
| 80.1 | The <i>Contractor</i> is not liable to the <i>Employer</i> for loss of or damage to the <i>Employer's</i> property in excess of | the amount of the deductibles relevant to the event |
| | Does the United Kingdom Housing Grants, Construction and Regeneration Act (1996) apply? | No |
| 93.1 | The <i>Adjudicator</i> is | the person selected from the ICE-SA Division (or its successor body) of the South African Institution of Civil Engineering Panel of Adjudicators by the Party intending to refer a dispute to him. (see www.ice-sa.org.za). If the Parties do not agree on an Adjudicator the Adjudicator will be appointed by the Arbitration Foundation of Southern Africa (AFSA). |
| | Address | [•] |
| | Tel No. | [•] |
| | Fax No. | [•] |
| | e-mail | [•] |
| 93.2(2) | The <i>Adjudicator nominating body</i> is: | the Chairman of ICE-SA a joint Division of the South African Institution of Civil Engineering and the London Institution of Civil Engineers. (See www.ice-sa.org.za) or its successor body |
| 93.4 | The <i>tribunal</i> is: | arbitration. |
| | The <i>arbitration procedure</i> is | the latest edition of Rules for the Conduct of Arbitrations published by The Association of Arbitrators (Southern Africa) or its successor body. |
| | The place where arbitration is to be held is | [•] South Africa |
| | The person or organisation who will choose an arbitrator | |
| | - if the Parties cannot agree a choice or | the Chairman for the time being or his nominee |
| | - if the arbitration procedure does not state who selects an arbitrator, is | of the Association of Arbitrators (Southern Africa) or its successor body. |
| The <i>conditions of contract</i> are the NEC3 Engineering and Construction Short Contract (April 2013)³⁴ and the following additional conditions Z1 to Z11 which always apply: | | |

³ If June 2005 Edition applies, delete April 2013 and insert June 2005

⁴ State whether attached as a 'PDF' file in terms of Eskom's licence, or to be obtained from Engineering Contract Strategies Tel 011 803 3008, Fax 086 539 1902 or www.ecs.co.za.

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

- Z2.1 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.
- Z2.2 The *Contractor* is required to submit an updated verification certificate and necessary supporting documentation confirming the change in his B-BBEE status to the *Employer* within thirty days of the notification or as otherwise instructed by the *Employer*.
- Z2.3 Where, as a result, the *Contractor's* B-BBEE status has decreased since the *starting date* the *Employer* may either re-negotiate this contract or alternatively, terminate the *Contractor's* obligation to Provide the Works.
- Z2.4 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 those stated in Clause 91.1 and the amount due on termination includes amounts listed in Clause 92.1 less a deduction of the forecast additional cost to the *Employer* of completing the *works*.

Z3 Confidentiality

- Z3.1 The *Contractor* does not disclose or make any information arising from or in connection with this contract available to others except where required by this contract. 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 where required by this contract the *Contractor* ensures that the provisions of this clause are complied with by the recipient.
- Z3.2 If the *Contractor* is uncertain about whether any such information is confidential, it is to be regarded as such until notified otherwise by the *Employer*.
- Z3.3 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.
- Z3.4 The taking of images (whether photographs, video footage or otherwise) of the *works* or any portion thereof, in the course of Providing the Works and after Completion, requires the prior written consent of the *Employer*. All rights in and to all such images vests exclusively in the *Employer*.
- Z3.5 The *Contractor* ensures that all his subcontractors abide by the undertakings in this clause.

Z4 Waiver and estoppel: Add to clause 12.2:

Z4.1 Any extension, concession, waiver or relaxation of any action stated in this contract by the Parties or their delegates 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.

Z5 Health, safety and the environment

Z5.1 The *Contractor* undertakes to take all reasonable precautions to maintain the health and safety of persons in and about the execution of the *works*. Without limitation the *Contractor*:

- accepts that the *Employer* may appoint him as the "Principal Contractor" (as defined and provided for under the Construction Regulations 2014 (promulgated under the Occupational Health & Safety Act 85 of 1993) ("the Construction Regulations") for the Site;
- warrants that the total of the Prices as at the Contract Date includes a sufficient amount for proper compliance with the Construction Regulations, all applicable health & safety laws and regulations and the health and safety rules, guidelines and procedures provided for in this contract and generally for the proper maintenance of health & safety in and about the execution of *works*; and
- undertakes, in and about the execution of the *works*, to comply with the Construction Regulations and with all applicable health & safety laws and regulations and rules, guidelines and procedures otherwise provided for under this contract and ensures that his Subcontractors, employees and others under the *Contractor's* direction and control, likewise observe and comply with the foregoing.

Z5.2 The *Contractor*, in and about the execution of the *works*, complies with all applicable environmental laws and regulations and rules, guidelines and procedures otherwise provided for under this contract and ensures that his subcontractors, employees and others under the *Contractor's* direction and control, likewise observe and comply with the foregoing.

Z6 Provision of a Tax Invoice and interest. Add to clause 50

Z6.1 The *Contractor* provides the *Employer* with a tax invoice in accordance with the *Employer's* procedures stated in the Works Information, showing the correctly assessed amount due for payment.

Z6.2 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 clause 51.2 is then calculated from the delayed date by when payment is to be made.

Z6.3 The *Contractor* 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 clause 61.1, "unless the event arises from an instruction of the *Employer*."

Z8 *Employer's* limitation of liability; Add to clause 80.1

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

Z9 Termination: Add to clause 90.2, after the words "or its equivalent":

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

Z10 Addition to Clause 50.5

Z10.1 If the amount due for the *Contractor's* payment of *delay damages* reaches the limits stated in this Contract Data (if any), the *Employer* may terminate the *Contractor's* obligation to Provide the Works.

If the *Employer* terminates in terms of this clause, the procedures on termination are those stated in Clause 91.1 and the amount due on termination includes amounts listed in Clause 92.1 less a deduction of the forecast additional cost to the *Employer* of completing the *works*.

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 Subconsultants 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 82 with the following:

Insurance cover 82

- 82.1 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.
- 82.2 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 | Cover provided until |
|--|---|---|
| Loss of or damage to the works | <p>The replacement cost where not covered by the <i>Employer's</i> insurance</p> <p>The <i>Employer's</i> policy deductible as at contract date, where covered by the <i>Employer's</i> insurance</p> | The <i>Employer's</i> certificate of Completion has been issued |
| Loss of or damage to Equipment, Plant and Materials | <p>The replacement cost where not covered by the <i>Employer's</i> insurance</p> <p>The <i>Employer's</i> policy deductible as at contract date, where covered by the <i>Employer's</i> insurance</p> | The Defects Certificate has been issued |
| The <i>Contractor's</i> liability for loss of or damage to property (except the works, Plant and Materials and Equipment) and for bodily injury to or death of a person (not an employee of the <i>Contractor</i>) arising from or in connection with the <i>Contractor's</i> Providing the Works | <p><u>Loss of or damage to property</u> <u>Employer's property</u></p> <p>The replacement cost where not covered by the <i>Employer's</i> insurance</p> <p>The <i>Employer's</i> policy deductible as at contract date where covered by the <i>Employer's</i> insurance</p> | |

| | | |
|--|---|--|
| | <p><u>Other property</u> The replacement cost</p> <p><u>Bodily injury to or death of a person</u> The amount required by the applicable law</p> | |
| 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 | |

82.3 The *Employer* provides the insurances as stated in the Insurance Table B

INSURANCE TABLE B

| Insurance against or name of policy | Minimum amount of cover or minimum 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 44 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 44 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.

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

The tendering contractor is advised to read both the NEC3 Engineering and Construction Short Contract (April 2013) and the relevant parts of its Guidance Notes (ECSC3-GN)⁵ 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 31 of the ECSC3 April 2013 Guidance Notes.

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

| | | |
|----------|--|--|
| 10.1 | The <i>Contractor</i> is (Name): | [•] |
| | Address | [•] |
| | Tel No. | [•] |
| | Fax No. | [•] |
| | E-mail address | [•] |
| 63.2 | The percentage for overheads and profit added to the Defined Cost for people is | [•]% |
| 63.2 | The percentage for overheads and profit added to other Defined Cost is | [•]% |
| 11.2(9) | The Price List is in | the document called 'Price List' in Part 2 of this contract. |
| 11.2(10) | The offered total of the Prices is [Enter the total of the Prices from the Price List]: | R[•] excluding VAT [in words] [•] excluding VAT |

⁵ 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 *Employer* or the tendering contractor

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

If the *Contractor* 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.

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

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 / contained in _____ (delete the text which does not apply and this note)

| Item no. | Description | Unit | Quantity | Rate | Price |
|---|---|----------|----------|------|-------|
| 100 | Geotechnical Evaluation | | | | |
| 101 | Determination of SMM trigger movement | Once off | 1 | | |
| 102 | Weekly SMM review and Report | weeks | 52 | | |
| 200 | Satellite Surface Movement Monitoring | | | | |
| 201 | SMM InSAR baseline | Once off | 1 | | |
| 202 | Weekly SMM InSAR Satellite Acquisition, Evaluation and Report | weeks | 52 | | |
| 203 | Web interface | Once off | 1 | | |
| 300 | Satellite Pool Position Monitoring | | | | |
| 301 | Weekly Pool Position and Beach Width Satellite Acquisition, Evaluation and Report | weeks | 52 | | |
| 400 | Aerial thermal survey | | | | |
| 401 | Thermal survey between 2am and 5am | Monthly | 12 | | |
| 402 | Monthly Thermal, LiDAR & Orthoimage Survey Evaluation and Report | Monthly | 12 | | |
| The total of the Prices (excluding VAT): | | | | | |

C3: Scope of Work

C3.1 Works Information

The Scope of Work includes a historical Satellite SMM evaluation and a weekly SMM survey, as well as a weekly Satellite Pool Position Survey and a monthly Thermal survey. A geotechnical evaluation is required to determine the SMM trigger movements/velocities against which the weekly SMM will be compared.

1. Description of the works

Survey Duration

The Kriel ash dam satellite SMM, Pool Position Change Detection and Thermal surveys are to be carried out over a period of 12 months. SMM and Pool Position monitoring are to be done on a weekly basis and the Thermal survey on a monthly basis to coincide with the monthly Lidar survey by others.

Survey Area

The survey must be done in WGS84 Lo29, bounded by the following coordinates (see Figure 1):

- P1: N 2,905,599 E -19,961
- P2: N 2,905,916 E -20,882
- P3: N 2,907,018 E -20,899
- P4: N 2,907,964 E -19,447
- P5: N 2,907,964 E -18,907
- P6: N 2,907,106 E -17,660
- P7: N 2,906,293 E -17,560

The survey area is 555 ha (see Figure 1).

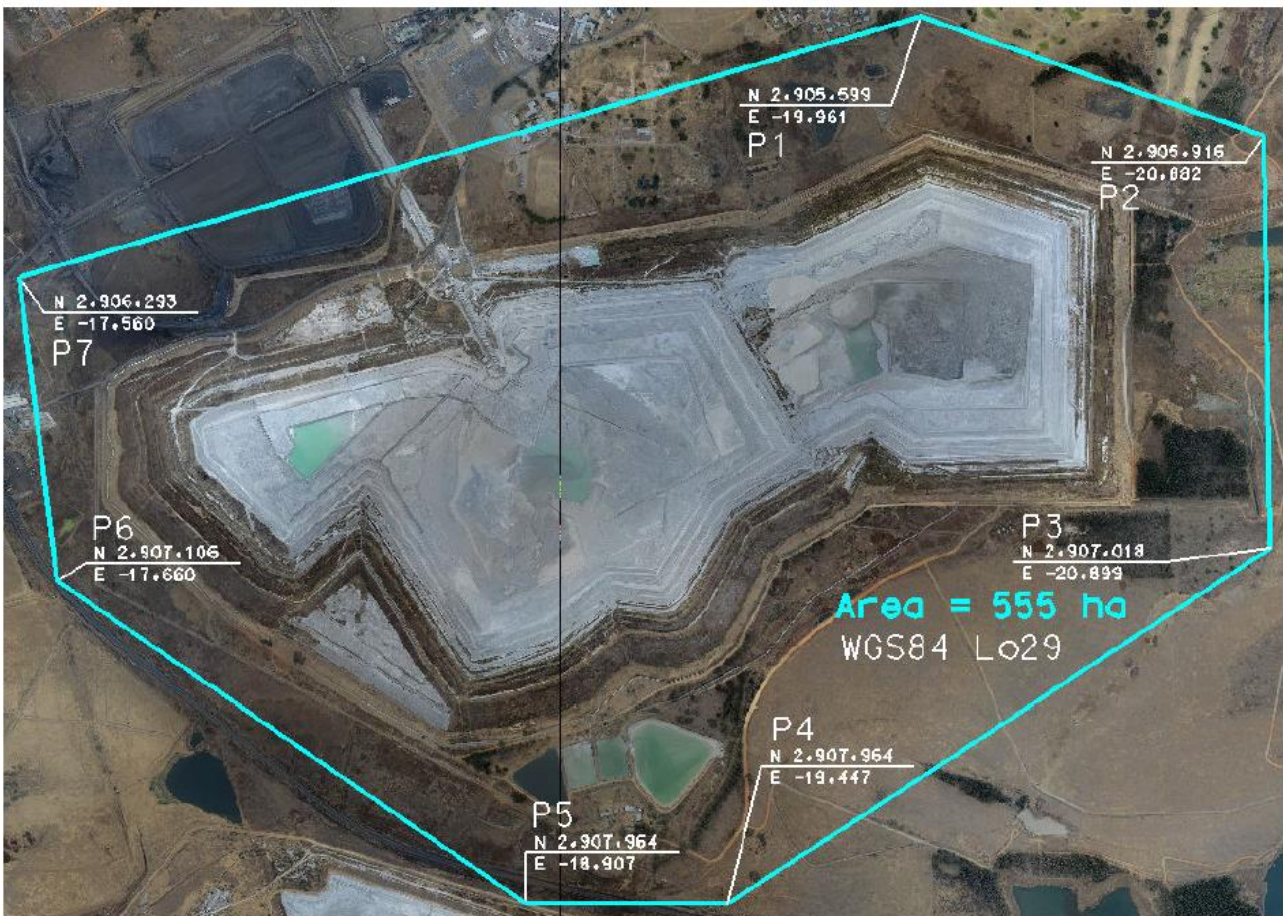


Figure 1 – Kriel Ash Dam Satellite and Thermal Survey Area

Geotechnical Evaluation

- a) Review of the Kriel ash dam stability and the historical SMM dataset to determine SMM trigger movements/velocities for the maximum allowable movements/velocities before manual inspection and/or further detailed survey on triggered areas is to be done.
- b) Review of the weekly (every 7 days) SMM movements/velocities for input into the weekly SMM report.

Satellite Surface Movement Monitoring

- a) Establish a SMM InSAR baseline using 12 previous acquisition datasets prior to the start of the project. This baseline must use archived X-band 8-12 GHz frequency range (2.5-3.75 cm wavelength range) data.
- b) Weekly (every 7 days) SMM InSAR acquisitions using X-band 8-12 GHz frequency range (2.5-3.75cm wavelength range) to ± 1 cm accuracy.

Satellite Pool Position Monitoring

- a) Weekly (every 7 days) acquisition of 50 cm or better orthorectified satellite imagery data.
- b) Processing of satellite imagery and integration into a change detection platform for monitoring of the pool position.
- c) Only cloud free imagery (less than 15% cloud cover) to be produced & invoiced.

Aerial Thermal Survey (Seepage Monitoring)

A monthly aerial Thermal Survey of the ash dam is required in order to identify thermal anomalies on and around the ash dam in order to try and identify water seepage areas. The Thermal survey specifications are:

- a) Thermal survey to be flown between the hours of 2 am and 5 am.
- b) Thermal image pixel resolution 0.75 m or better.
- c) Capture of known placed points with a pyrometer using ice boxes and typical ground temperature readings for calibration and verification and for rectification of the thermal survey image into an orthorectified image.
- d) Absolute temperature measurements accuracy of 3 degrees Celsius.
- e) Relative temperature measurements accuracy of 1 degree Celsius.

DELIVERABLES

Geotechnical Evaluation

- a) Maximum allowable ash dam side slope SMM trigger movements/velocities.
- b) Evaluation of the weekly SMM movements/velocities for input into the weekly SMM report.

Satellite Surface Movement Monitoring

- a) A Web-Interface to allow interrogation of the SMM data.
- b) The Web-Interface is to allow extraction of Change Graphs. The Web Interface should enable Eskom to extract information showing the historical movement of any specific points or lines of interest within the surveyed area.
- c) Data Delivery - "Heatmap" Layers:
 - SMM (.kmz Google Earth)
 - SMM (.shp)
 - SMM (.ecw)
- d) Web-Interface:
 - Interchangeable SMM heatmap layers
 - Qualitative layers (comparison layers)
 - RGB image layers
- e) Report:
 - Weekly SMM report

Satellite Change Detection Monitoring (Pool Position)

- a) Access to the change detection platform:
 - Built-in visualizing and interrogating feature
 - Change detection tools
- b) Downloadable vectors:
 - Change layers will be downloadable in shapefile & Microstation .V8 dgn format.

| | | |
|--|--|--|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

4. Constraints on how the *Contractor* Provides the Works

State any constraints on the sequence and timing of work and on the methods and conduct of work including the requirements for any work by the *Employer*. Also include any management related constraints, invoicing and payment procedures some of which have been inserted below as a minimum guide.

4.1 Meetings

Provide information about regular meetings to be held such as early warning and compensation event meetings (suggest weekly), safety and planning meetings.

4.2 Use of standard forms

Provide details of standard forms to be used by the *Contractor* in the administration of the contract, for example early warning and compensation event notifications.

4.3 Invoicing and payment

The Z clauses make reference to invoicing procedures stated here in this Works Information. Also include a list of information which is to be shown on an invoice. The following text is provided as a guide; revise to suit actual requirements.

In terms of core clause 50 the *Contractor* assesses the amount due and applies to the *Employer* for payment. The *Contractor* applies for payment with a tax invoice addressed to the *Employer* as follows:

The *Contractor* includes the following information on each tax invoice:

- Name and address of the *Contractor*
- The contract number and title;
- *Contractor's* VAT registration number;
- The *Employer's* VAT registration number 4740101508;
- The total Price for Work Done to Date which the *Contractor* has completed;
- Other amounts to be paid to the *Contractor*;
- Less amounts to be paid by or retained from the *Contractor*;
- The change in the amount due since the previous payment being the invoiced amount - excluding VAT, the VAT and including VAT;
- (add other as required)

The *Contractor* attaches the detail assessment of the amount due to each tax invoice showing the Price for Work Done to Date for each item in the Price List for work which he has completed.

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

4.4 Records of Defined Cost

In order to substantiate the Defined Cost of compensation events, the *Employer* may require the *Contractor* to keep records of amounts paid by him for people employed by the *Contractor*, Plant and Materials, work subcontracted by the *Contractor* and Equipment. [See clause 11.2(5) and 63.2]. State in what form these records are to be kept and how accessed by the *Employer*.

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

If the ASGI-SA requirements are to be included in this contract specify constraints which *Contractor* must comply with after contract award in regard to any ASGI-SA requirements. The ASGI-SA Compliance Schedule completed in the returnable tender schedules is reproduced here. If ASGI-SA does not apply, delete this paragraph.

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

[Insert the agreed ASGI-SA Compliance Schedule here]

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

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

4.6 BBBEE and preferencing scheme

Specify constraints which *Contractor* must comply with after contract award in regard to any Broad Based Black Economic Empowerment (B-BBEE) or preferencing scheme measures.

4.7 Facilities to be provided by the *Contractor*

State any requirements such as offices on site for the *Employer*.

4.8 Title to material from excavation and demolition

Read clause 70.2 then provide details as required. Particularly relevant in demolition where substantial amounts of copper are involved.

4.9 Design by the Contractor

Paragraph 1 above will have outlined what work is to be designed by the Contractor (if any). State here what procedures are required for the submission and acceptance of that design.

4.10 Cataloguing requirements by the Contractor

State whether cataloguing is applicable, if it is, reference the requirements for cataloguing that need to be satisfied by the Contractor (consult Procurement Instruction Number 1 of 2018 – Incorporating Cataloguing into the Procurement Environment, Unique Identifier 240-1289988974).

5. Requirements for the programme

State whether a programme is required and, if it is, state what form it is to be in, what information is to be shown on it, when it is to be submitted and when it is to be updated.

State what the use of the works is intended to be at their Completion as defined in Clause 11.2(1).

6. Services and other things provided by the Employer

Describe what the Employer will provide such as services (including water and electricity) and “free issue” Plant and Materials and equipment.

| Item | Date by which it will be provided |
|------|-----------------------------------|
| | |
| | |
| | |

C4: Site Information

General

The Kriel Power Station is situated approximately half way between Bethal and Ogies on the R545, being just over 30 km from each town and 8 km north-west of Kriel town.

2. Climate

Kriel Power Station is situated in a summer rainfall area with an average annual precipitation of about 750-mm falling almost entirely during the months of October to April. The average rainfall per month generally exceeds 40 mm during this period, although drought periods do occur which can last for 20 days or longer. Drought periods occur most frequently during the months of October/November and March/April. January is statistically the highest rainfall month with an average monthly rainfall of about 130-mm. June has the lowest rainfall with an average monthly rainfall of about 7 mm.

Approximately 85% of the annual rainfall occurs in the summer months and heavy falls of 125 to 150 mm occasionally occur in a single day. The annual average number of thunderstorms is about 75. These storms are often violent with severe lightning and strong (but short-lived) gusty winds and are sometimes accompanied by hail. This region has among the highest hail frequencies in South Africa; about 4 to 7 occurrences (depending mainly on altitude) may be expected annually.

January is normally the hottest month with an average daily maximum temperature of 27°C with a mean daily temperature in winter being about 16°C. Winter average daily temperatures vary from 18,5°C maximum to -1°C minimum. The extreme temperatures recorded range from 34,7°C to minus 12,4°C for the period 1920 - 1984. (Source: Weather Bureau, Pretoria)

Winds are generally light to moderate except during thunderstorms. Generally the prevailing wind directions are from the North West during the day and from the east at night. During daytime, the prevailing winds are from the north-western direction. During night-time, the prevailing winds are from the north-eastern direction. The highest recorded average wind speed is 17, 6 km/hour. The average wind velocity over the year is 14, 5 km/hour.

(Source: MSN weather & Weather 24, average records 2008 - 2009.)

3. Weather Data – Refer to Annexure A

4. Relative Humidity

Records for Bethal (2008 - 2009)

The average relative humidity on an annual base is as follows:

For 08:00 = 80%

14:00 = 52%

20:00 = 73%

5. Prevailing Winds

Records for Bethal (2008 - 2009)

Winds are mostly north-westerly except for February and March when they are easterly to south-easterly. The highest wind speeds are recorded from the south-east: on average 14km/h.

6. Other Climatic Factors

Records for Bethal (2008 - 2009)

Thunder occurs mostly from November to January with average of 35.7 days annually.

a) Hail occurs mostly in December with average of 2.8 days annually.

- b) Fog occurs mostly in the winter months with an average of 19 days annually.
- c) Snow rarely occurs
- d) Cloud coverage is highest in the summer months with annual average as follows:
 - 08:00 = 2.8/8
 - 14:00 = 3.8/8
 - 20:00 = 3.1/8
- e) Evaporation for the area is in range of 75mm to 190mm per month. The highest evaporation occurs in December, and the lowest in June.

7. Topography

The surface topography of the Kriel area is typical of the Mpumalanga Highveld consisting in the main of a gently undulating plateau. The flood plains of the local streams are at an average elevation of ± 1540 meters above mean sea level and drainage generally is a northerly direction.

8. Air Quality

The existing and potential sources of air pollution in Kriel area are the following:

- Kriel Power Station stack emissions
- Kriel Power Station dry dust (fly ash) handling plant
- Dust blow from the Eskom coal stock yard
- Dust blow from the roads in the area
- Seasonal dust blow caused by ploughing of farmlands, and dust blow off denuded fields
- Dust blow from dried out exposed surfaces of the wet ash dam.

However, Eskom utilises the majority of the top surface of the ash dam as an evaporation pan for polluted water, which means that the exposed surface is constantly wet. The sides of the ash dam have largely been rehabilitated, with the result that dust blow from the ash dam.