



NEC3 Engineering and Construction

Short Contract (ECSC3)

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

and

For Installation of flow meters to process and instrument air pipework.

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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:

Installation of flow meters to process and instrument air pipework.

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. _____'

Schedule of Deviations

Note:

1. To be completed by the Employer 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 Employer prior to the tender closing date is limited to those permitted in terms of the Conditions of Tender.
3. A tenderer's covering letter must not be included in the final contract document. Should any matter in such letter, which constitutes a deviation as aforesaid be the subject of agreement reached during the process of Offer and Acceptance, the outcome of such agreement shall be recorded here and the final draft of the contract documents shall be revised to incorporate the effect of it.

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

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

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

For the tenderer:

For the Employer

Signature _____

Name _____

Capacity _____

On behalf of _____
(Insert name and address of organisation)

Name & signature of witness _____

Date _____

C1.2 Contract Data

Data provided by the *Employer*

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 ¹ is (Name):	Wenziwe Mathebula
	Address	Kusile Power Station R545 Kendal/Balmoral Road Haartebeesfontein Farm Witbank 1034
	Tel No.	0177993119
	Fax No.	N/A
	E-mail address	Mathebwc@eskom.co.za
11.2(11)	The <i>works</i> are	Installation of flow meters to process and instrument air pipework.
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	Kusile Power Station
30.1	The <i>starting date</i> is.	Contract Signature date
11.2(2)	The <i>completion date</i> is.	Estimated Completion date
13.2	The <i>period for reply</i> is	5 days
40	The <i>defects date</i> is	52 weeks after Completion
41.3	The <i>defect correction period</i> is	2 weeks
50.1	The <i>assessment day</i> is the	25th of each month.
50.5	The <i>delay damages</i> are	2% per day
50.6	The retention is	10 %

¹ Except those actions which can only be done by the *Employer* as a Party to the contract.

51.2	The interest rate on late payment is	the publicly quoted prime rate of interest (Calculated on a 365 day year) charged from time to time by the Standard Bank of South Africa Limited (as certified, in the event of any dispute, by any manager of such bank, whose appointment it shall not be necessary to prove) for amounts due in Rands
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 more than	<p>The costs of repairing or replacing the damaged property or relevant insurance deductible payable by the <i>Employer</i>, which ever amount is lesser.</p> <p>the amount of the deductibles relevant to the event described in the applicable "Format ECSC3" policy available on http://www.eskom.co.za/Tenders/InsurancePoliciesProcedures/Pages/EIMS_Policies_From_1_April_2014_To_31_March_2015.aspx</p>
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
- if the arbitration procedure does not state who selects an arbitrator, is

the Chairman for the time being or his nominee of the Association of Arbitrators (Southern Africa) or its successor body.

The conditions of contract are the NEC3 Engineering and Construction Short Contract (April 2013)²³ and the following additional conditions Z1 to Z11 which always apply:

Z1 Cession delegation and assignment

- Z1.1 The *Contractor* does not cede, delegate or assign any of its rights or obligations to any person without the written consent of the *Employer*.
- Z1.2 Notwithstanding the above, the *Employer* may on written notice to the *Contractor* cede and delegate its rights and obligations under this contract to any of its subsidiaries or any of its present divisions or operations which may be converted into separate legal entities as a result of the restructuring of the Electricity Supply Industry.

Z2 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*.

² If June 2005 Edition applies, delete April 2013 and insert June 2005

³ 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.

- 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 means any one or more of a Coercive Action, Collusive Action Corrupt Action,

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></p>	The Defects Certificate has been issued

	insurance	
The <i>Contractor's</i> liability for loss of or damage to property (except the <i>works</i> , 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></p> <p><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></p> <p>The replacement cost</p> <p><u>Bodily injury to or death of a person</u></p> <p>The amount required by the applicable law</p>	
Liability for death of or bodily injury to employees of the <i>Contractor</i> 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
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Z13 Nuclear Liability

- Z13.1 The *Employer* is the operator of the Koeberg Nuclear Power Station (KNPS), a nuclear installation, as designated by the National Nuclear Regulator of the Republic of South Africa, and is the holder of a nuclear licence in respect of the KNPS.
- Z13.2 The *Employer* is solely responsible for and indemnifies the *Contractor* or any other person against any and all liabilities which the *Contractor* or any person may incur arising out of or resulting from nuclear damage, as defined in Act 47 of 1999, save to the extent that any liabilities are incurred due to the unlawful intent of the *Contractor* or any other person or the presence of the *Contractor* or that person or any property of the *Contractor* or such person at or in the KNPS or on the KNPS site, without the permission of the *Employer* or of a person acting on behalf of the *Employer*.
- Z13.3 Subject to clause Z13.4 below, the *Employer* waives all rights of recourse, arising from the aforesaid, save to the extent that any claims arise or liability is incurred due or attributable to the unlawful intent of the *Contractor* or any other person, or the presence of the *Contractor* or that person or any property of the *Contractor* or such person at or in the KNPS or on the KNPS site, without the permission of the *Employer* or of a person acting on behalf of the *Employer*.
- Z13.4 The *Employer* does not waive its rights provided for in section 30 (7) of Act 47 of 1999, or any replacement section dealing with the same subject matter.
- Z13.5 The protection afforded by the provisions hereof shall be in effect until the KNPS is decommissioned.

Z14 Asbestos

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

AAIA	means approved asbestos inspection authority.
ACM	means asbestos containing materials.
AL	means action level, i.e. a level of 50% of the OEL, i.e. 0.1 regulated asbestos fibres per ml of air measured over a 4 hour period. The value at which proactive actions is required in order to control asbestos exposure to prevent exceeding the OEL.
Ambient Air	means breathable air in area of work with specific reference to breathing zone, which is defined to be a virtual area within a radius of approximately 30cm from the nose inlet.
Compliance Monitoring	means compliance sampling used to assess whether or not the personal exposure of workers to regulated asbestos fibres is in compliance with the Standard's requirements for safe processing, handling, storing, disposal and phase-out of asbestos and asbestos containing material, equipment and articles.
OEL	means occupational exposure limit.
Parallel Measurements	means measurements performed in parallel, yet separately, to existing measurements to verify validity of results.
Safe Levels	means airborne asbestos exposure levels conforming to the Standard's requirements for safe processing, handling, storing, disposal and phase-out of

asbestos and asbestos containing material, equipment and articles.

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

SANAS means the South African National Accreditation System.

TWA means the average exposure, within a given workplace, to airborne asbestos fibres, normalised to the baseline of a 4 hour continuous period, also applicable to short term exposures, i.e. 10-minute TWA.

Z14.1 The *Employer* ensures that the Ambient Air in the area where the *Contractor* will Provide the Services conforms to the acceptable prescribed South African standard for asbestos, as per the regulations published in GNR 155 of 10 February 2002, under the Occupational Health and Safety Act, 1993 (Act 85 of 1993) ("Asbestos Regulations"). The OEL for asbestos is 0.2 regulated asbestos fibres per millilitre of air as a 4-hour TWA, averaged over any continuous period of four hours, and the short term exposure limit of 0.6 regulated asbestos fibres per millilitre of air as a 10-minute TWA, averaged over any 10 minutes, measured in accordance with HSG248 and monitored according to HSG173 and OESSM.

Z14.2 Upon written request by the *Contractor*, the *Employer* certifies that these conditions prevail. All measurements and reporting are effected by an independent, competent, and certified occupational hygiene inspection body, i.e. a SANAS accredited and Department of Employment and Labour approved AAIA. The *Contractor* may perform Parallel Measurements and related control measures at the *Contractor's* expense. For the purposes of compliance the results generated from Parallel Measurements are evaluated only against South African statutory limits as detailed in clause Z14.1. Control measures conform to the requirements stipulated in the AAIA-approved asbestos work plan.

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

Z14.4 In the event that any asbestos is identified while Providing the Services, a risk assessment is conducted and if so required, with reference to possible exposure to an airborne concentration of above the AL for asbestos, immediate control measures are implemented, and relevant air monitoring conducted in order to declare the area safe.

Z14.5 The *Contractor's* personnel are entitled to stop working and leave the contaminated area forthwith until such time that the area of concern is declared safe by either Compliance Monitoring or an AAIA approved control measure intervention, for example, per the emergency asbestos work plan, if applicable.

Z14.6 The *Contractor* continues to Provide the Services, without additional control measures presented, on presentation of Safe Levels. The contractually agreed dates to Provide the Services, including the Completion Date, are adjusted accordingly. The contractually agreed dates are extended by the notification periods required by regulations 3 and 21 of the Asbestos Regulations, 2001.

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

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)⁴ 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

⁴ 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:

C3: Scope of Work

C3.1 Works Information

1. Description of the *works*

Introduction

Compressed air systems across Eskom fleet are regarded as level 1 plant, meaning this plant can cause MUT. The main contributors to MUT risk at Kusile Power Station are the loss of aux cooling water, lack of redundancy/unavailable compressors, power loss and high air consumptions or usages. Thus far at Kusile Power Station, load losses caused by insufficient compressed air have been experienced.

At this point Kusile Power station has high compressed air consumption from station consumers. A large amount of compressed air is being consumed in an excessive amount, but the cause is difficult to trace. This project to install air flow meters at all station consumers will help to determine which system is consuming more and can be repaired.

Supporting Clauses

Scope

Purpose

This document serves as the scope to install flow meters on all compressed air users for monitoring consumption at Kusile Power Station.

Applicability

This document shall apply to Kusile Power Station for the installation of flow meters on all compressed air users.

Effective date

Document is effective upon from the authorisation date.

Normative/Informative References

Parties using this document shall apply the most recent edition of the documents listed in the following paragraphs:

Normative

- a. ISO 9001 Quality Management Systems.
- b. The National Environmental Management Act, Act No 107, 1998.
- c. ISO 14001 Environmental Management System.
- d. 240-105929225: Compressed Air System Standard Rev 3.
- e. 240-164479614/203 – 108663: Kusile Power Station Multiple Unit Trip (MUT) Risk Report for Grid Code Compliance.
- f. 240-89346203: Kusile Power Station Compressed Air Maintenance Strategy Rev5.
- g. 240-164818098: Kusile Power Station System Health Report for Compressed Air Plant June 2024.
- h. 240-97174554-1: Kusile Power Station Operating Technical Specification for Compressed air systems Rev 4.

Informative

- a. Occupational Health and Safety Act No. 85 of 1993.

Definitions

- a. **Contractor:** Service provider contracted for supplying specific service to Eskom, Kusile Power Station.
- b. **Employer:** Eskom, Kusile Power Station
- c. **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' appliances, and tools.
- d. **Air quality:** Correct flow rate and purified compressed air.

Abbreviations

Abbreviation	Description
SOW	Scope of Work
MUT	Multi-Unit Trip
OEM	Original Equipment Manufacture

Abbreviation	Description
ISO	International Organization for Standardization
QCP	Quality Control Plan
SANS	South African National Standards
PSR	Personal Safety Regulation
BOP	Balance Of Plant
DCS	Distributed Control System
P&ID	Process and Instrumentation Diagram
KKS	Kraftwerk Kennzeichen System

Roles and Responsibilities

The Employer

The responsibilities of the Employer include the following:

- Employer shall provide training for PSR, ORHVS, and any other training as deemed necessary by the Employer.
- The Employer and Contractor in this SOW is committed towards the following.
- Retention of critical skills
- Continuous cost reduction
- Health & Environment Safety
- Employer shall ensure that the contractor appointed are qualified, demonstrated experience and skills to execute the scope of work.
- Provide clarify on the scope of work to the contractor as and when required.
- Participate in quality control holding point as stipulated on the quality control plan.
- Authorise final release of product.

The Contractor/OEM

The responsibilities of the Contractor include the following:

- a. To proof by any means that they have qualifications, skills and experience to execute the scope of work.
- b. Complete the scope of work as outlined in this document.
- c. Ensure compliance with relevant health and safety standards.
- d. Work against this contract can only be performed upon receipt of a task order.
- e. All works will be subject to anytime inspection from the Employer.
- f. Housekeeping for any work is the responsibility of the Contractor.

Manpower Requirements

The contractor shall provide suitable work force to executive this scope of work according to Eskom procedures explained in this document.

Process for Monitoring

N/A

Scope of Work

The installation of the flow meters should address the issue of having systems consume more process, service, and control air. These flow meters readings must be connected and displayed on the DCS for monitoring. The system to be monitored are as follows:

- Dust Handling Plant (DHP) including Ash silos.
- Pulse Jet Fabric Filter Plant (PJFFP).
- Water Treatment Plant (WTP).
- Waste-water Treatment Plant (WWTP).
- Aux Boiler.
- Flue Gas Desulphurisation (FGD).
- Coal Silos.
- Boiler.
- Turbine.
- Fuel Oil.
- Condensate Polishing Plant (CPP).

Scope to install flowmeters:

- Total of 48 flow meters to be installed in all system consume compressed air. The list in Appendix – A shows all system with KKS for location of where the flow meters should be installed. Appendix-B attached are the P&IDs for systems.
- All the flow meters to be connected on the DCS at the BOP for plant flow rate monitoring.

- Work shall begin once all designs are approved for construction, QCP's are approve by Eskom representatives.
- Final release of the flow meter after installation should be done by Eskom System Engineer.

Material and Dimensions

- Material and dimensions are stipulated in Appendix-A and Appendix – B.

Figure 3-1 shows the material specification of the pipes installed on the above systems to supply process, service, and control/instrument air.

	Temperature		Pressure		Material	
	Operating	Design	Operating	Design	≤ DN50	>DN50
Service Air (SCH)	20 °C	60 °C	7.0 bar	10 bar	SANS 62-1	ANSI A106
Instrument Air (QFH)	20 °C	60 °C	7.0 bar	10 bar	SANS 62-1	ANSI A106




Remark	Material of Piping	Pipe Class	Design Pressure bar(g)	Design Temperature °C	Calculation Section
≤ DN50	SANS 62-1	MSA_MS_C7	10 bar(g)	60 °C	
> DN50	ANSI A106 Gr. B	MSA_MS_C7	10 bar(g)	60 °C	
	1.4571	STD16_A1	10 bar(g)	60 °C	

Figure 0-1: Pipe design and material specifications.

Design

- For power connection and DSC connection, a contractor should connect to the nearest connection point on each system.
- Power supply to the flowmeters is 24V.
- Adhere to Kusile power station standards: Analog output signal is ranging from 4 – 20mA.
- From the Analog out signal will be connected to the junction box at the plant and be used to send communication to the BOP DCS.
- The type of communication used in Kusile power station is PROFIBUS.

3.4 Design Drawings

- All the drawings (P&ID's) should be updated with the flow meters installed; the drawings should meet minimum requirement of Eskom document 240-86973501 Engineering Drawing Standard.
- All updated drawings (P&ID's) shall be supplied for approval by Eskom Engineer.

Documentation

The *Contractor's* scope of work includes but is not limited to providing the following documentation before completion of the service required:

Data Book

The *Contractor's* scope of work includes but is not limited to providing the following documentation:

- a. Service report after work to be completed and submitted for approval.
- b. Completed QCP's including QCP's for sub-*Contractors*. (Approved by Eskom).

QCP's, method statements

QCP's, method statements and procedures are to be issued to the *Employer* for acceptance before any work commence. Inspection Test plans and QCPs are issued to the *Employer* to mark up with witness and hold points.

Environmental requirements

- a. The contractor must identify all aspect and impact related to the scope of work and put measures in place to minimise/prevent environmental contamination.
- b. All waste including scrap materials to be disposed in allocated bins onsite.

Acceptance

This document has been seen and accepted by:

AName	BDesignation
CGrace Olukune	DKusile Engineering Manager
Busi Nkomo	Kusile Auxiliary Plant Engineering Manager
Emmanuel Manganye	Kusile Auxiliary Senior Engineer
Hloni Ramorena	Kusile Compressor Plant System Engineer
Nolo Ramabya	DHP System Engineer
Rudzani Nekhambele	Conveyor system Engineer

AName	BDesignation
CGrace Olukune	DKusile Engineering Manager
Mncedisi Nkosi	FGD System Engineer
Sam Motluguneng	WTP System Engineer

Revisions

EDate	FRev.	GCompiler	HRemarks
118/11/2024	J02	KHloni Ramorena	LResolving comment from the first issue
25/06/2024	01	Hloni Ramorena	First issue

Development Team

The following people were involved in the development of this document:

- System Engineer - Hloni Ramorena

Acknowledgements

- Nhlanhla Rikhotso - Senior Auxiliary Engineer.
- Sherperd Dibakoane - Senior Auxiliary Engineer.
- Nolo Ramabya – Auxiliary System Engineer.
- Mary Maunye - SME Compressor Plant Asset Management.

Appendix-A: System pipes location and KKS numbers

System	Type of Air	KKS	Quantity of Flow Meter	Pipe Size (ND)
DHP and PJFFP	Process air	10QEB10BR001,20QEB10BR001, 30QEB10BR001, 40QEB10BR001, 50QEB10BR001,60QEB10BR001	6	100
	Control/ Instrument air	10QFB10BR001, 20QFB10BR001, 30QFB10BR001, 40QFB10BR001, 50QFB10BR001,60QFB10BR001	6	50
Ash Silos	Process air	00QEB17BR001	1 for 3 silos and 1 for 3 silos	80
	Control/ Instrument air	00QFB30BR001	1 for 3 silos and 1 for 3 silos	50
FGD	Process air	00QEB45BR001, 00QEB25BR001, 00QEB28BR001	4	50
	Service air	00QEB27BR001, 00QEB22BR001	3	50
	Control/ Instrument air	00QFB27BR001, 00QFB22BR001	3	50
WTP	Process air	00QEB17BR002	1	50
	Control/ Instrument air	00QFB13BR001	1	50
Boiler				
	Control/ Instrument air	10QFB10BR004, 20QFB10BR004, 30QFB10BR004, 40QFB10BR004, 50QFB10BR004, 60QFB10BR004	6	80
Turbine	Service air	00QEB16BR001, 00QEB11BR001	6	50
	Control/ Instrument air	10QFB10BR007, 20QFB10BR007, 30QFB10BR007, 40QFB10BR007, 50QFB10BR007, 60QFB10BR007	6	50
Fuel Oil	Service air	00QEB40BR001	1	50
	Control/ Instrument air	00QFB11BR001	1	50

N/A

[illegible]

C4: Site Information

Core clause 11.2(16) states

“Site Information is information which

describes the Site and its surroundings and
is in the documents which the Contract Data states it is in.”

In Contract Data, reference has been made to this Part 4 of the contract for the location of Site Information.

General description

Site	:	Kusile Power Station
Regional Authority	:	Emalahleni Local Municipality, Mpumalanga Province
Nearest Towns	:	Emalahleni – 42km north east of power station Bronkhorstspuit – 41km south of power station Delmas – 45km north of power station There are informal settlements within a 10 km radius of the power station.
Infrastructure	:	Kusile Power Station is situated approximately 3km from the N4 highway and is connected to it by means of a tarred road. There is also a secondary tarred road connecting the site with the R545 and D686.
Latitude & longitude	:	
Landowner	:	Portions of Horingkraans Farm
River catchment	:	Wilge River
Regional Climate	:	Kusile Power Station is situated in the Mpumalanga Province on the Highveld in the western part of Mpumalanga province on the escarpment, at an average height of 1551 m above sea level. The winters are generally dry and cold with regular frost and temperatures varying between -7°C and 23°C. The summers are mild with most of the rainfall occurring during this season. Temperatures vary between 12° & 32° C.
Wind direction	:	Data from the Emalahleni weather station shows that Kusile Power Station is sited in such a way that for most of the year (291 days) the wind direction is from the power station in a direction that is North West.
Rainfall	:	Based on information recorded at the Emalahleni weather station, the average annual rainfall for the Emalahleni area is approximately 691 mm. (Weather Bureau, Pretoria).

C4.1: Information about the *site* at time of tender which may affect the work in this contract

1. Access limitations

Some work during this project will be done at height:

- DHP's process air pipelines for units 1 to 6 are above ground. Access to the working area will require scaffolding.
- On the boiler at 0 meters level ground floor, some pipelines are at heights that need scaffolding to be erected. Unit 1 to Unit 6 will have similar work.
- FGD dewatering plant scaffold will be needed to gain access to install electric cables to the junction boxes.
- At the water treatment plant scaffolding will be needed to gain access to the process and control air main pipelines.
- Ash silos process and control air pipelines are above ground. Therefore, to install flow meters scaffolding needs to be erected to access the area for installations.

2. Ground conditions in areas affected by work in this contract

During the course of this project, no earthworks will be performed.

3. Hidden and other services within the *site*

Routing of cabling might be hidden between building structures because most of them are installed on cable racks from the equipment to the power supply. Some cable racks are at -5meter level aux bay.

4. Details of existing buildings / facilities which *Contractor* is required to work on

The below describes the buildings/facilities the contractor will be working on, and this will be backed up by existing as-built drawings to give more details. As-built drawings will be provided when required.

Units: Boiler and Turbine pipework.

- Unit 1 Boiler 0 meter level, ground floor pipelines from Auxiliary control air receiver.
- Unit 2 Boiler 0 meter level, ground floor pipelines from Auxiliary control air receiver.
- Unit 3 Boiler 0 meter level, ground floor pipelines from Auxiliary control air receiver.
- Unit 4 Boiler 0 meter level, ground floor pipelines from Auxiliary control air receiver.
- Unit 5 Boiler 0 meter level, ground floor pipelines from Auxiliary control air receiver.
- Unit 6 Boiler 0 meter level, ground floor pipelines from Auxiliary control air receiver.

Units: PJFFP and DHP

- Unit 1 PJFFP and DHP plant first floor process and control air pipelines.
- Unit 2 PJFFP and DHP plant first floor process and control air pipelines.
- Unit 3 PJFFP and DHP plant first floor process and control air pipelines.
- Unit 4 PJFFP and DHP plant first floor process and control air pipelines.
- Unit 5 PJFFP and DHP plant first floor process and control air pipelines.
- Unit 6 PJFFP and DHP plant first floor process and control air pipelines.

BOP and FGD Plant

- Outside FGD dewatering plant: process, service, and control air pipelines.
- Outside the FGD absorbers for both east and west plants: process, service, and control air pipelines.
- Water treatment plant: process and control air pipelines inside the building from the main supply pipelines.
- Outside fuel oil building there is process and control air pipelines.
- Ash silos at the back of unit 1 and next to fuel oil buildings.

BOP control room.

Some work will be happening inside the BOP control room for pulling the cables to the DCS.